1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

III

THE ABORIGINES OF THE SOVIET FAR EAST

101 There are about 60,000 aborigines in the Soviet Far East (excluding Yakutia and Buryat-Mongolia) belonging to over a dozen different nationalities. The ethnographers divide them into two main groups. The first group, the Paleoasiats, includes the Chukchi, the Koryaks, the Asiatic Eskimos, the Aleuts, Ainu, Nivkhi and Kamchadals. Of the second, the Manchu-Tunguz peoples, the most important are the Tunguz proper, or Evenki, the coastal Tunguz, or Eveni, the Nanai and the Udege. Politically and sociologically all these nationalities must be considered as one single entity. The Soviet régime has treated them quite differently from the Korean, Chinese and Japanese minorities. As the small groups of aborigines are unable to handicap Russian colonization, the Communist Party has patronised them, and Soviet propaganda has always devoted a great deal of publicity to them, even at a time when there was complete silence about the Koreans and Chinese of the Soviet Far East. This does not necessarily mean that Soviet Russia has handled the problems of the Far Eastern aborigines successfully.

563

TWO VIEWS ON NATIVE POLICY

563 177 656 In the first years following the October Revolution the most authoritative Russian anthropologists felt that the time had come to take special measures to protect the Far Eastern and Far Northern natives from the pernicious influences of European civilization. Demands to that effect were voiced, in the winter of 1921–22, in the organ of the People's Commissariat for Nationalities, *Zhizn Natsionalnostei*. The most remarkable contribution to the problem of the small nationalities came from Professor Vladimir Germanovich Bogoraz-Tan (1865–1936), who had a profound knowledge of the problems of the tribes of North-Eastern Siberia, particularly of the Chukchi. Professor Bogoraz suggested that the Soviet Government should draw the lessons from certain experiments carried out in the native territories of Canada, the United States, Brazil and Argentina. It seemed vital to him that the mode of

133 "golets"), which means the same as "baldy" or "bald-head." These goltsy, which appear in Transbaykal only in individual instances, are extremely typical for all mountain areas in the Far Eastern region.

•101 311 Culturally, too, Transbaykal has to a remarkable degree a transitional character. The steppe regions, the steppe valleys, and the steppe islands have since time immemorial been the seat of nomadic cattle-breeders, in this case the Buryat, an intelligent and energetic tribe of Mongols, who have kept themselves on the steppes which suit their nature and culture. It is interesting to determine how exactly their expansion even today coincides with their natural landscape. The Buryat penetrate only rarely into the forest areas; more often they leave these to the forest peoples of the Tungus, who even today live there still as hunters and reindeer breeders. The Buryat were the first people to give successful resistance for a time to the invading Cossacks, but as nomads they later had to clear the field for the Russians who were seeping in slowly and pursuing agriculture. Buryat helped themselves, however, by adjusting: they often went over to agriculture themselves, and they appropriated for themselves the advantages of Russian culture. Thus, even though they were penetrated by Russians, they were able to retain their original regions and to attain a cultural level which raised them above all their Mongolian tribal brothers on the other side of the Soviet Russian border. Because of the invasion by the Russians, there came into existence here a cultivated landscape which was inserted between the completely forested areas in the north and the pure steppes in the south; but corresponding to the spacious transition region, this cultivated landscape did not appear in a closed-off zone, but in culture islands. In extensive regions in the south near the border, the Buryat even today still lead their old nomadic, cattle-breeding life.

132 The fact that the bulk of the rainfall occurs in the summer is favorable for agriculture. Chita, lying in the middle of the land, has an annual rainfall of only 319 millimeters. However, 289 millimeters of this falls during the vegetation period so that a relatively sufficient [243] amount of dampness is available, in conjunction with continental warmth, to make possible a very high yield of summer wheat. This makes Transbaykal an important wheat producer and the principal supplier for all of east Siberia.

133 The Amur country is adjacent to Transbaykal, without a clear border, north of the northern arc of the Amur. In its large morphological traits it is no less varied than Transbaykal, though the differences in

from the Oka, a left tributary of the Angara, to the Onon and Argun steppes in the east. At that time they already knew how to extract salt and to process iron. They were known as the trade middlemen between the Tungus hunting peoples and the Chinese. From the Tungus they acquired valuable furs (sable) by barter in exchange for food, especially millet, and these furs they exchanged with Chinese traders for silver and goods from China. In this period, under the leadership of the "Noyone," the tribal divisions had been transformed into fixed, almost state-like organizations, which were in a position to give successful resistance to the Cossacks pressing in in the seventeenth century. The first information which the Cossacks received of Transbaykal described the land as having a wealth of valuable furs and silver. 175

Even the Irkutsk Buryat accomplished vigorous resistance, and in many instances smaller Cossack divisions were defeated or annihiliated. In the course of battles lasting years the Cossacks succeeded in getting a foothold in Transbaykal in individual bases, which were built up into small fortresses. In 1646 Verkhne Angarsk was founded at the mouth of the Upper Angara on Lake Baykal, in 1648 Barguzin was founded, Nerchinsk in 1654, Selenginsk /now: Novo-Seleginsk/ in 1665, Verkhne Udinsk (Ulan-Ude) in 1666. Nevertheless the Buryat did not submit so easily to the will of the Cossacks, whose power did not extend far beyond the bases. Twice great uprisings broke out, and for months the bases were cut off from all contact and exposed to a severe siege. Smaller posts were pillaged, the personnel slaughtered, and the buildings destroyed. However, in the long run the Buryat could not hold out against the firearms and the better organization of the Russians. Many retreated into Mongolia, but from there they again and again /104/ made attacks. Only after the Treaty of Nerchinsk in 1639 did peace return to the land. With that colonization by the Russians began.

The Old Peoples

Three groups can be distinguished among the old peoples presently occupying Transbaykal and the far eastern region: the Mongols, the Tungus, and the Paleoasiatics. The Buryat are the sole representative of the Mongols in Baykal, while the Tungus and Paleoasiatic peoples are distributed over the entire far eastern region. 101 144

The Buryat occupy the region west and east of Lake Baykal.

The Buryat occupy the region west and east of Lake Baykal.
101 563 Their entire number in 1939 was around 280,000. They are divided into the Irkutsk and the Transbaykal Buryat. The former, numbering approximately 100,000, live in the Irkutsk region and enjoy cultural autonomy in the Ust'-Orda Krai. The Transbaykal Buryat are united in the Buryat-Mongol ASSR. Nevertheless, they constitute only 43.8 percent of the population of this ASSR (1941), and the Russians are in the majority. Buryat live in large numbers also in the Chita region, especially in the Aginsk /Aga/ Steppe south of Chita, where they have their own administration in a national district. The Buryat are regarded as a branch of the Mongols and are contrasted with the Khalkha
563 Mongols in Outer Mongolia. As history shows, a part of this people early became sedentary, especially west of Lake Baykal. In the steppes of Transbaykal, however, the major part of the people remained typical Mongolian nomads until the very recent past. Gmelin, who traveled the land in the eighteenth century, reports that numerous Buryat had herds of thousands of sheep and hundreds of reindeer and horses. Georgi, who spent time in Transbaykal in the same century, writes that individual Daur Buryat own up to 1,000 camel, 4,000 horses, 2,000 to 3,000 reindeer, 8,000 sheep, and hundreds of goats. Even if these numbers may be exaggerated, they show nevertheless that animal breeding was the basis of the economic life of the Buryat. After the invasion of the Russians they were able to adjust in advantageous fashion to the changed situation, and a large part of the people went over to agriculture. There remained for them simply no other way, since the Russian settlers took the best pasture lands from them and transformed them into tilled land. Pressed into unfavorable areas, they proceeded with remarkable energy and without European guidance to create their own tilled land through artificial irrigation, especially in the river region of the Selenga and in the Barguzin Valley. However, in the southern steppes of Transbaykal they have /105/ retained their original occupation, cattle raising, in which they have made extraordinary accomplishments. The Buryat Republic belongs today
563 to the most important cattle surplus areas in the Soviet Union. Many
177 interesting features of their own folk life have been lost through the introduction of kolkhoz economy and modern cattle-raising methods. Thus the felt yurts occupied of old have simply disappeared and have been replaced by small, practical wooden houses. However, there are still regions in Transbaykal where the Buryat continue their nomadic life unhindered, even though everywhere the influence of Russiandom grows stronger and stronger. At most the Irkutsk Buryat and the

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts.

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds.

Goldi, Olcha, Orochi

101 563 in the winter dog sleds. The position of the women is difficult. [342] Polygamy is permitted. Bride purchase remains today. The Goldi live in small settlements of two to twenty houses, which are built out of mud like Chinese fang-tze /Fansen/. Many of them are half sunk in the earth. In the summer, however, the Goldi gladly leaves his fixed house and moves into his original domed tent, which is covered with birchbark or bast mats. In more recent times many Goldi have taken up the cultivation of vegetables, and they also breed pigs and chickens. The Samaghir, who live on the Gorin, a left tributary of the lower Amur, can be named as relatives of the Goldi. Their culture corresponds to that of the Goldi, but many expressions in their language indicate that they formerly were reindeer breeders. At present they devote themselves exclusively to fishing and hunting. Further downstream live the Olcha, who have also spread to the coast of the Tatar Strait and to Sakhalin. On Sakhalin they call themselves the Orok. The Olcha are also hunters, fishermen, and dog breeders. However, in contrast to the semi-nomadic Goldi, they are sedentary, and they all pursue agriculture in slight measure. Various signs indicate that they also were once reindeer breeders as their relatives, the Orok on Sakhalin, still are today. The total number of Olcha and Orok can scarcely exceed 2,000. More numerous--around 2,500--are the Orochi, who are also often called Udekhe (after the river Udekhe). Split up into numerous small groups, they live in the valleys of the middle and southern Sikhote-Alin' and also on the side toward the sea and the Ussuri. [179] Many of them, especially in the south, are under Chinese influence and speak, reside, and live in a Chinese fashion. However, in the heart of Sikhote-Alin' they have remained rather pure and still live as true forest people, as Arseniev described them, and they show pronounced [141] Tungus traits. The men on the average are 1.60 meters tall, and the women 1.45 meters. Their small hands and feet are striking. [301] Like the Goldi they once wore ear and nose rings, and this custom still exists among the Orochi-Udekhe, although only among the [342] women. They still live in pointed tents in contrast to the domed tents of the Goldi, in which the tent poles are bent together to form a dome and which recall, in their form, the yurts of the Mongols. On long trips, however, the Orochi did not take his tent along, since the tent was too burdensome for him; instead, while he was on his way, he built a simple protective tent out of twigs. The pure Orochi is only a hunter and fisherman. The social order of this people is

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their chest but with their neck. The main food of the Gilyak is fish dried [262] in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [141] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role; this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

Chukchee, Koryak 101 563

material life of the Maritime Chukchee, who number approximately 3,000, is completely the same as that of the Eskimo. They use the same leather boat, the kayak, and the metal harpoon with a float made of an inflated sealskin, and many other things. On the other hand the Reindeer Chuckchee are completely nomadic and have shown themselves to be extraordinarily good reindeer breeders. They number only about 9,000, but they have around half a million reindeer. But still reindeer breeding does not appear to have been their original sphere, for many idioms as well as marks of their dwelling indicate that they also once lived on the banks of the sea; reindeer breeding was perhaps taken over later from the neighboring Tungus. Thus, /109/ as Bogoras (37) reports, the interior of the sleeping section of

[501] [174]

37. V. Bogoras. The Chukchee (New York, 1904/1908).

the tent is designated as the "skin of the white bear" by the Reindeer Chukchee, even though at present not bear skin but rather only reindeer skin serves as walls and bed covering both for the Reindeer and the Maritime Chukchee. Peculiar is the belief of the Chukchee that a life after death is attained only by a person who has had a violent death, and it was not long ago that, out of a kind of sympathy, they killed their own people who were weakened by age or unfit for life; this custom is also reported among the North American Eskimo. The Chukchee, Koryak, and Kamchadal generally show many traits related to those of the Indians of northwest America, and it is for this reason that Bogoras classifies as "Americanoid" the entire group of Paleoasiatics, including the Gilyak mentioned earlier.1/ Myths and sagas coincide both in content and in form, often down to details, with those of the northwest American Indians. Accordingly the assumption should not be dismissed that the Chukchee, Koryak, and Kamchadal once were immediate neighbors of the Indians, and that only at a later time did the Eskimo shove in between them.

[961] [171]

The Koryak, now also designated as Nymylan, occupy the northern half of Kamchatka and the adjacent continent. Their number is estimated at around 10,000. Like the Chukchee they are divided in half into the Maritime Koryak and the Reindeer Koryak. The former are sedentary and above all fishermen, and their life approaches in significant measure that of the Eskimo. They also hunt sea animals such as the walrus, the seal, and occasionally also the whale. They are already extensively absorbed into the Russian culture and live

1/ [Cf. cat. 116, pp. 118-119 -- Analyst]

Koryak, Kamchadal

101
563

together in villages in crudely constructed wooden houses. The leather boats, which they still use for hunting and fishing, are disappearing more and more. The Reindeer Koryak have also already grown far from their original culture. They are primarily reindeer breeders and own large herds. They live nomadic life wandering between the valley regions protected from the wind in the winter and the gnat-free mountainous tundra in the summer. The square winter hut, which is built from wood and is half sunk in the earth, is built in imitation of the Russian house. They recall the old pit dwelling of Europe. Only in the summer do they use their round, transportable tent, which in its original form consisted of a framework of poles covered with reindeer skins. Today, however, it is often only a type of board shanty, since their wanderings are mostly limited to short stretches. The winter huts as a rule lie on rivers and are permanent constructions. Older people often remain in the winter huts even in the summer, and accordingly the Koryak must be designated as semi-nomadic. Physically the Koryak are medium to short in height with straight black hair, slight growth of hair on the face, and brown-bronze skin color. They make their clothes out of reindeer, wolf and dog skins, and they make lighter clothing for the summer from seal skin. In this /110/ they show a color-happy feeling for art and decorate their clothing with strips of hide of different colors or with leather which they form into various ornaments.

[342] [142] [281]

The Kamchadal or Itelmen occupy the southern part of Kamchatka Peninsula, primarily the southern part of the western coast and the Kamchatka valley. Their number earlier must have been much greater, for old reports speak of tens of thousands. Today their number can scarcely be determined since a very large part of the people have been completely Russianized. Many have almost forgotten their own language. It is interesting that numerous Russians in the first wave of colonizers are completely absorbed in the Kamchadal and cannot be distinguished from them at all in mode of living and customs. In some villages on the western coast between Zedanka and Zepochnoye there are still pure Kamchadal, who number around 800 (1930). Often these people alone are designated as Itelmen and contrasted to the Kamchadal. They have abandoned their original earth hut, which can still be encountered in the interior as a base for hunters, and they live in clumsy wooden houses of the Russian type. Fishing is their principal occupation. In the winter, however, they move into the mountains to hunt fur animals. Their houses stand unordered in loose groups on the rivers. When the

[177] [342]

when the Kamchadal, Eskimo 101 ●
salmon run begins, festivals of joy and work begin for young and old. 563
As a rule the fish are caught in fixed traps, which are drawn across [226]
the river so that the way is barred for the fish as they go upstream.
The fish press together in great masses in front of this weir and are
caught with simple scoop nets. The common drying place is never [251]
empty, for it is important to preserve as many fish as possible for the
entire year by drying them. In addition, an older method is still used
occasionally: the fish are buried in the earth and there becomes sour;
hence there is a kind of fish silo from which fish can be fetched during
the winter as needed. A penetrating fish smell fills the entire settle-
ment, and there is no end to eating during the catching season. It
is not too much to say that the Kamchadal live on fish and tea. The [231]
dog, the most important domestic animal and beast of burden for all
sedentary native northeast Siberians, is also fed on fish. The num-
ber of dogs is considered as the mark of wealth. There are families
which have 200 to 300 dogs, which are housed in a pen near the house
and fill the entire region with their hoarse barking. It is inadvisable
for strangers to go near these half-wild animals. At present the horse
is spreading more and more and is beginning to displace the dog as
the beast of burden. Through the state organization of fishing and the
introduction of modern methods, large sections of the Koryak have
also been incorporated and placed in a new order. Many have also
turned to agriculture and cattle-breeding.

/111/ The Asiatic Eskimo live on the banks of Bering Strait
and occupy 17 villages with approximately 1,600 people. They ex- [174]
tended much further formerly; and it is for this reason that there are
Eskimo names for places now occupied by Maritime Chukchee. The
displacement of the Eskimo must have been done simply by force, for
the sagas of the Chukchee are filled with reports of hard battles with
the Eskimo, battles which, however, ended long before the entrance
of the Russians. Today the two peoples live harmoniously beside one
another in separate villages. The Asiatic Eskimo differ from their
relatives in Alaska in their speech but culturally they form a unit with
them. With their life completely directed toward the sea, they seldom
go into the interior of the land; for such occasions they use dog sleds.
On the Commander Islands live approximately 500 Aleut, who, ac-
cording to their language, are related to the Eskimo. They, too,
live completely from catching sea animals, since the islands offer
them only birds.

As has already been said, the Buryat Mongols have a cultural

l: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

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1. THE SOUTH-EASTERN PART OF THE SOVIET FAR EAST

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Copyright

2. THE RUSSIAN EMPIRE IN THE NORTH PACIFIC

● 102

GUIDE TO THE RR1 SIBERIA FILE

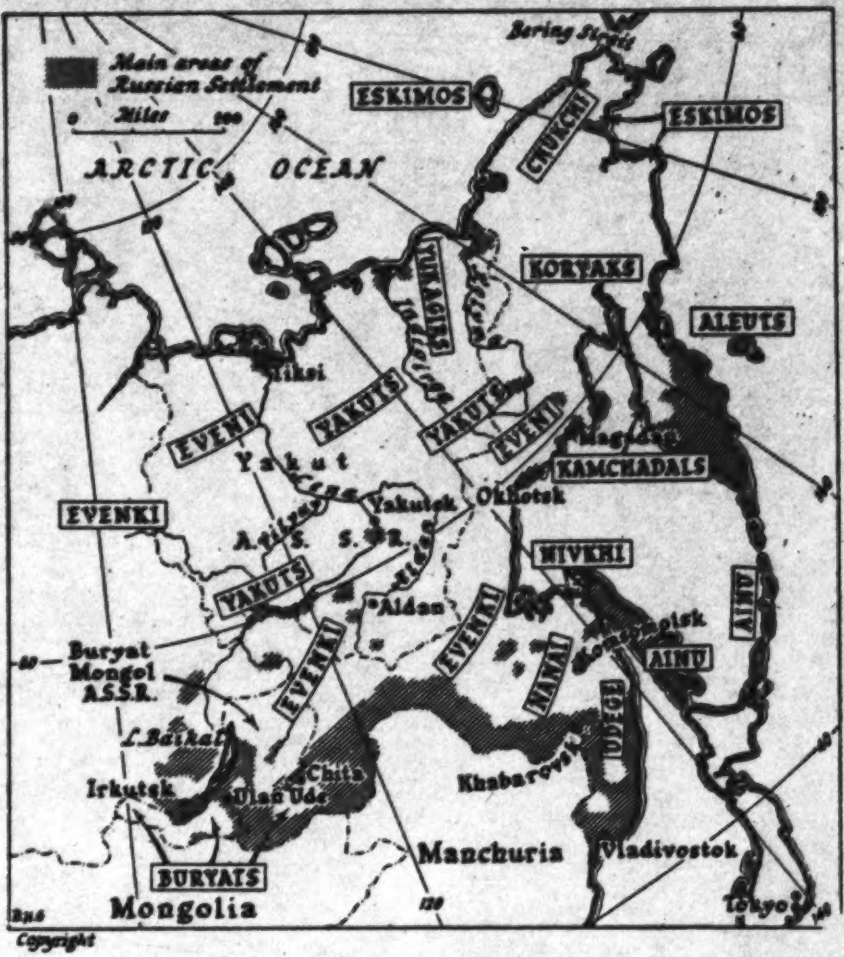
[The RR1 Siberia file contains general data on modern Asiatic Russia and its peoples, either exclusive or inclusive of Russian Central Asia. To the Soviets, this area includes all of the eastern regions whose waters empty into the Pacific and whose climate is under the influence of the Pacific and are separated from other parts of the Soviet Union by mountains. All of the area east of Lake Baikal and the entire Pacific coast from Vladivostok on the south to the Chuckchee peninsula on the north is included in this region. 3: Thiel, however, includes the area of Transbaikal since the area is connected economically more closely with the east than the west, and "... one could try to designate Transbaykal directly as the platform of the position of the Soviet Union in East Asia." (3: Thiel, p. 1). The area covers 3,850,000 square kilometers, which is more than fifteen times the size of Great Britain and northern Ireland or seventeen times the area of France.

The native people of Siberia speak a number of varied languages. Fifty-eight percent of them speak Turkic languages. This includes the Yakuts and Dolgans. Twenty-seven percent speak Mongolic languages, mostly represented by the Buryats. The Tunguso-Manchurian speakers, e.g., the Tungus, constitute 6% of the population. In northwest Siberia the native languages are Ugric and Samoyedic. Together they constitute 5.7% of the indigenous population. The Paleoasiatic speakers, e.g., the Chuckchee, Koryak, and Italmen, account for only 3% of the native population while the Eskimo-Aleuts are only 0.3%.

Russians have been colonizing Siberia since the end of the 16th century. By the late 17th century, the Russians already outnumbered the native population. After the abolition of serfdom in 1861, great numbers of Russians started migrating to Siberia, but the greatest wave of immigration occured after the construction of the Transiberia Railway in the early 20th century. Population figures indicate that between 1926 and 1939, there was a 75% population increase in Siberia, the result of Russian immigration. Population estimates for 1950 vary considerably. 1: Kolarz gives a figure of 4,200,000, while 3: Thiel, who includes the Transbaikal area, gives a figure of 6,300,000. Estimates on the basis of 1959 figures indicate that there were approximately 1,200,000 native people. Population density reached a high of about 20/sq. km. in the more urban areas, while the mean was only 1.6/ sq. km.

There are four sources in the RR1 file, one of which is a translation from German. The sources are not numbered continuously, numbers 2, 5, 6, 7, 8, and 9 do not appear at this time. The most basic and general source is 3: Thiel. It is a comprehensive study of the physical and cultural geography of the area including Transbaikal. 1: Kolarz is also quite general but its emphasis on the Russian colonization and its minority policies. 4: U.S. Army is a brief article on political and economic activities of the Kolyma area. 10: Laufer is a brief article on the origin of the word shaman. He traces its origin to the Turkish-Tungusic speakers. 10: Laufer is composed of the old-style typed file slips and lacks the OWC codes. This file contains only general information and should be treated as a background or introductory file to other more specific files, such as the Samoyed, Yakut, Gilyak, Chuckchee, Kamchadal, and Koryak files. The file was processed from the early 1950's to 1956.]

1: Kolarz J-4 (no date) 1954 RR1 Siberia *RR1*



3. THE ABORIGINES OF THE SOVIET FAR EAST

3: Thiel--379 K-4,5 (no date) 1953 RR1 Siberia RR1

Section A

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Map of the Soviet Far East

--3: Thiel--380 K-4,5 (no date) 1953 RR1 Siberia RR1

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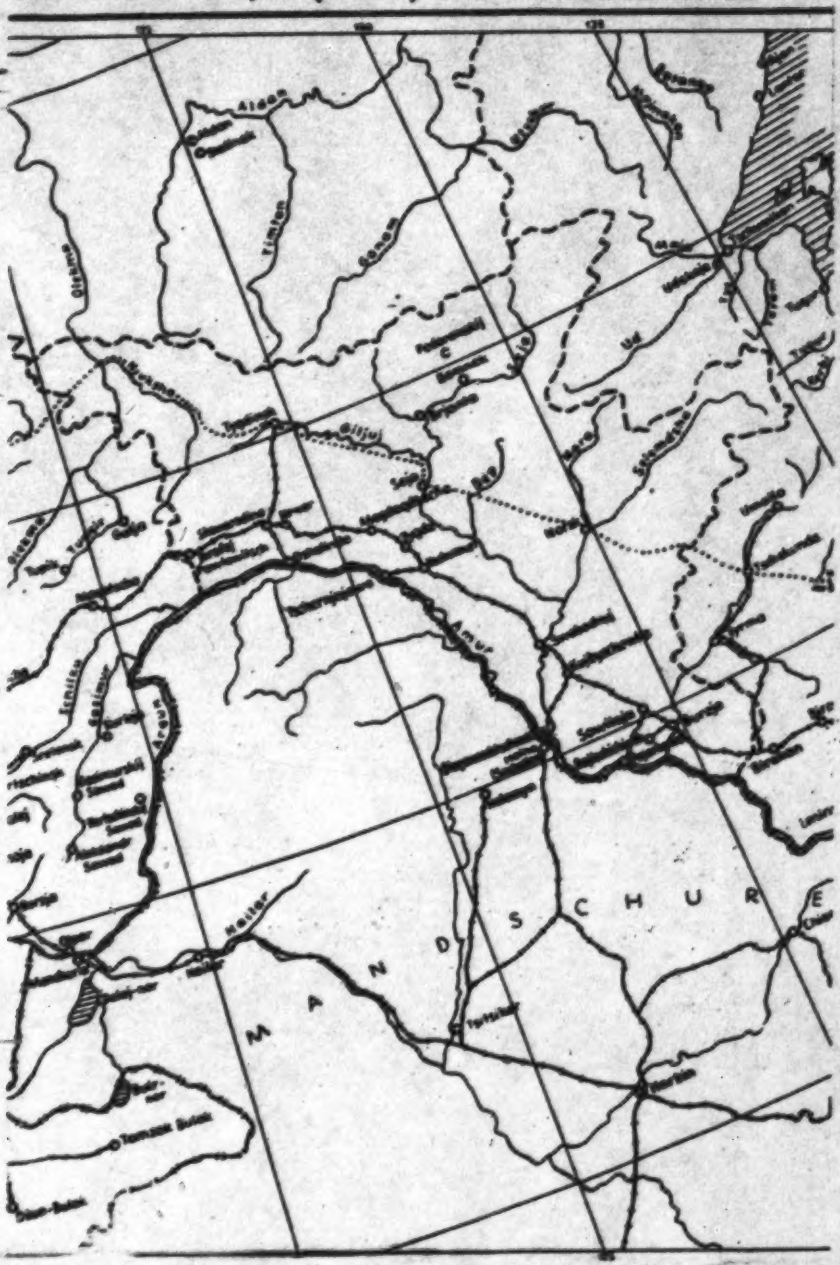

Section B

Map of the Soviet Far East

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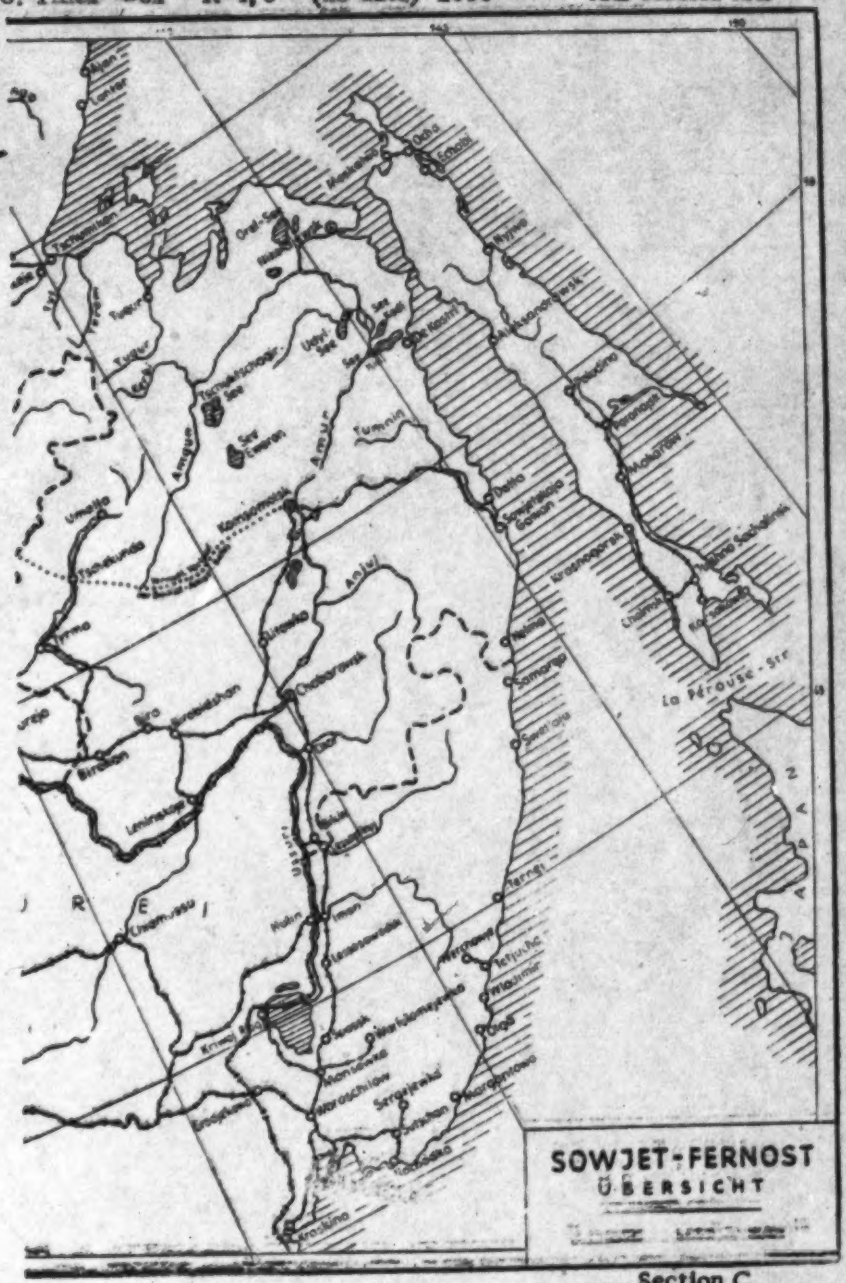

Map of the Soviet Far East

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

more conscious of this loss than Czarist Russia had ever been. In Soviet political literature published after the Second World War the abandonment of the Russian outposts in California in the 'forties' and the sale of Alaska to the United States appear not only as regrettable blunders, but almost as acts of treason on the parts of the Czarist Government. 175

THE RUSSIAN PACIFIC

Russian traditions in the Pacific, as presented by Soviet propaganda, are by no means confined to Russian rule over Alaska and 'Fort Ross'. Quite a number of Russian naval expeditions took place throughout the nineteenth century in various parts of the Pacific Ocean. The public, and particularly Soviet youth, has been acquainted with them since 1945 in various ways. Stories about these expeditions have been written anew, in the form of historical novels or of straightforward descriptions, with the obvious object of stimulating national pride. 186 208

From this patriotic Soviet Russian literature centring on the Pacific one can learn a great deal – for instance, that the Russians discovered as many as 400 small Pacific islands, more particularly those belonging to the Paumotu Archipelago in the South-East Pacific, and some of the Marshall Islands. All these islands had been named after Russian generals in the war against Napoleon, and other famous Russian historical figures. Some of the Russian names still persist. Thus the, Lisiansky Island, a possession of the U.S.A., east of Midway Island, bears the name of a well-known Russian seafarer, and east of Samoa there still exists a Suvorov Island belonging to Britain. Also, the big island of New Guinea has important Russian associations. Russians are not credited with its discovery, it is true, but it was a Russian scholar to whom was due the first detailed description of the Papuan people. The Russian explorer, Miklukho-Maklay (1846–88), spent some time with the Papuans. The result of his observations was included in his diaries, which were not published until the Soviet régime came to power. As the Russian geographer, L. S. Berg, puts it, Miklukho-Maklay died before he succeeded in writing his fundamental scholarly works, but, even so, he is highly honoured in the Soviet Union. After all, he was the first Russian to demand that Russia should have a colony in the Pacific.[36] The Institute of Ethnography of the Academy of Sciences has been called after him and a play 'White Friend' has been produced in which he is the central figure. He appears there as the 'champion of black and coloured peoples enslaved by the colonizers of the West'.[37] 186 203 103

'NEVELSKOY'S IMMORTAL FEAT'

For Soviet patriotic ideology one historic personality is more important 186 208 159

3: Thiel--382 K-4, 5 (no date) 1953 RR1 Siberia RR1

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Transkription des russischen Alphabets

Bei geographischen Namen wurde die bisher im Deutschen gebräuchliche Schreibung im Text der Arbeit beibehalten, im übrigen die in der nachstehenden Tabelle angeführte Umschreibung benutzt, der gleichzeitig die übliche englische Transkription beigefügt wird.

	Gebrauchte Transkription		Englische Transkription	
а	a		a	
б	b		b	
в	w		v	
г	g		g	
д	d		d	
е	e	nach Konsonanten	e	nach Konsonanten
	je	nach Vokalen und am Wortanfang	ye	nach Vokalen und am Wortanfang
ж	sh		zh	
з	s		z	
и	i		i	
й	j		y	
к	k		k	
л	l		l	
м	m		m	
н	n		n	
о	o		o	
п	p		p	
р	r		r	
с	s,	jedoch zwischen Vokalen ss	s	
т	t		t	
у	u		u	
ф	f		f	
х	ch		kh	
ц	z		ts	
ч	tsch		ch	
ш	sch		sh	
щ	schtsch		shch	
ъ	unbezeichnet		unbezeichnet	
ы	y		y	
ь	j		'	
э	e		e	
ю	ju		yu	
я	ja		ya	

113, 185, 243, 311 Siberia RR1

[For a discussion of the Soviet agricultural program announced in the spring of 1954 to add some 70 million acres to the area of grain cultivation in western Siberia and northern Kazakhstan, see 75: Jackson, R1 Soviet Union, entire source.]

1: Kolarz, Walter. The Peoples of the Soviet Far East, Frederick A. Praeger, Inc., 1954.

Pp. vii, 206, 5 maps, 1 illustration.

HRAF Copy

[This source deals with the Russian colonization of the Far East and Soviet minority policies in that area. The peoples of the Soviet Far East that are discussed are the Russian Koreans, Russian Chinese, Russian Japanese, Nanai, Udege, Nivkhi, Kamchadals, Aleut, Ainu, Eveni, Koryaks, Chukchi, Yakut, Buryat Mongols, the Altai peoples, Tuva, and the Mongol Peoples. Due to the scarcity of documentary material on this area, the author has had to rely almost exclusively on published Soviet materials such as Soviet novels, plays and poems that touch upon the Soviet Far East, The bibliographical notes following each chapter have been filed only in category 113 RR1 Siberia. ---- Analyst]

Field date: none
Analyst: C. Harvey

Evaluation: Journalist-4
Processed in 1955

3: Thiel, Erich. Sowjet Fernost; eine Landes-und wirtschaftskundliche Ubersicht [Soviet Far East; A Geographical and Economic Survey.] Munich, 1953.

HRAF Manuscript pp. 382; 33 maps; bibliography.

Translated from the German by Carol Cerf for the Human Relations Area Files.

[This book is detailed discussion of the physical and cultural geography of the Soviet Far East which the author has designated as the land east of Lake Baikal. The book is divided into two sections. The first section is a general survey of the Far Eastern region as a whole which includes a description of its geological structure, topography, climatic condition, natural resources, demographic features, economic potentials and transportation facilities. The second section deals with similar information for each of the eighteen geographical subdivisions. --Analyst]

Field date: no date
Analyst: Robert Lee

Evaluation: Geographer-4, 5
Processed in 1956

4: United States Army. USSR: Magadan, Capital of the Kolyma Gold Empire. Psychological Warfare, Weekly Research Report #55, 18 January 1956.

Pp. 1-12

HRAF copy.

[This is an informative article which discusses the political and economic activities of the Kolyma region of Siberia. It is written as a summary of events which have taken place in the region since 1927 with emphasis on the development of gold mines through the use of slave labor under the direction of the Ministry of the Interior of the Soviet Union. --Analyst]

Field date: no date
Analyst: Robert Karlowich

Evaluation: Government Official - 4
Processed in 1956

10: Laufer Berthold. Origin of the Word Shaman. American Anthropologist, n.s., Vol. XIX, pp. 361-371. Menasha: American Anthropological Association, 1917.

Yale: Nk10.Am37.II.v.19.

[SFB: In this short article Mr. Laufer attempts to prove that the word shaman is of Turkish-Tungusian origin in contrast to the earlier beliefs that it came from Sanskrit and that it was introduced to Siberia by Buddhist monks. This study was based on an extensive linguistic survey in which Laufer depended to a considerable extent on the work of the Hungarian scholar J. Nemeth. No illustrations were contained in the publication.

Field date: no date Evaluation: E-3].

113, 13 Siberia RR1

/For data on the physical geography, geology, climate, flora, fauna, and soil of the mountains of Northeastern Siberia, see 58: Berg, R1 Soviet Union, cat. 116, pp. 311-317. --Analyst. /

113, 13 Siberia RR1

/For data on the physical geography, geology, climate, flora, fauna, and soil of the tundra zone in Siberia, see 58: Berg, R1 Soviet Union, cat. 116, pp. 2-21. --Analyst/

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

1948, had only been anti-Japanese. In response to criticism in the official press the author produced, in 1951, a second edition of the same book into which a number of anti-American passages had been inserted.[40]

The interpretation of the personality of Lazo underwent a change in another direction also. Originally, Lazo appeared in Soviet propaganda as an international communist fighting for the victory of the World Revolution in the Far East. As time went on this international aspect was pushed into the background, and Lazo was transformed into a patriotic Russian, although, being a Moldavian of Swiss extraction, he had not a drop of Russian blood in his veins.[41] The favourite quotation which Soviet propagandists of the later period picked out of Lazo's statements reflects indeed a most patriotic frame of mind: 'We shall fight with our lives for the homeland against foreign invaders. For this Russian land on which I am standing now we shall die and shall not give it up to anyone'.[42] It must be admitted that the Russian patriot, Lazo, appeals much more than the communist guerilla leader. A man like Lazo would have become a national hero anywhere in the world, for a person who is killed by foreign invaders under dramatic circumstances always occupies an honourable place in the history of his nation.

These few examples may suffice to characterize the new Pacific 'mystique' which the Soviet régime has created. The whole Russian people is to be indoctrinated with the new Pacific ideology, but in the first place, this ideology is intended as a moral equipment for the Russian settlers on the Pacific coast. They are to be made more sure of themselves, and more ready to overcome difficulties by instilling into them the proud feeling that they are the successors of Dezhnev and Shelikhov, of Kuskov and Nevelskoy, and also, of course, of Sergey Lazo.

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1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

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1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1
Northeast Siberia R41

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of origin after 1945. Communist Russia, on the other hand, showed by the wholesale evacuation measures in the Soviet Far East that she did not believe in a successful future 'sovietization' of the Japanese of Sakhalin and the Kurile Islands, or even of the Vladivostok Chinese and Koreans.

3. In North America even the Japanese evacuees enjoyed the benefits of democratic institutions. The Japanese of California took their case, though unsuccessfully, to the Supreme Court of the United States and there was freedom of speech in the Japanese 'relocation centres' that existed in California, Arkansas, Utah and Idaho. Japanese Americans found champions among Americans of Anglo-saxon stock and a comprehensive book which took up their case with great insistence saw as many as five reprints during the war. The Canadian Japanese too were not helpless. They had associations and a newspaper *The New Canadian* to defend their interests. The case of the Canadian Japanese was amply discussed in parliament and in the Press. Nothing of all this is possible under Soviet conditions.

4. All negative measures taken against the Japanese in Canada and the United States took place under the full control of public opinion. The administration had to render account for every single evacuated Japanese, for housing and health conditions in the reception areas, and even for the school attendance of the evacuated Japanese children. In the Soviet Union the evacuation of Chinese and Koreans took place under conditions of the greatest secrecy and is not traceable in any accessible official records. It was the arbitrary action of a police state.[48]

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Chukchec R42

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Chukchi as a separate national group. Accordingly, the forecast of the great Russian anthropologist Professor Bogoraz-Tan with regard to the Chukchi seems to be coming true: 'If civilization comes too near, the Chukchi will probably follow the way of other primitive peoples, and will die out and disappear.'[68]

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The fact that Zinoviev was later expelled from the Bolshevik Party and executed has, of course, no bearing on the matter. What he said about the right of a revolutionary China to participate in the solution of the Mongol problem was a true expression of Russian Bolshevik policy at that time, and it could still be considered as a binding promise. In point of fact, the Soviet Government did not abide by the pledge which Zinoviev had given. It settled the Mongol question, from its own point of view finally, at a time when the Chinese had not yet liberated themselves from 'foreign oppressors', to use the Soviet jargon. It might even be said that the U.S.S.R. has shown a peculiar haste in concluding the agreement of 1945 with the weak bourgeois Chinese State of the Kuomintang, in order to put an accomplished fact before a new revolutionary and more vigorous China.

However weighty the economic and political reasons which might be advanced in favour of a continuation of the Russian protectorate over Outer Mongolia, there are other, perhaps even more convincing, arguments which the new China could put forward against it, arguments of a racial and geographical nature. One day the Chinese may ask whether it is logical that the Asiatic Mongols should be ruled from European Moscow, rather than from the much nearer Asiatic Peking.

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Dissatisfaction at the arbitrary attitude of the territorial authorities came into the open at a provincial party conference held in Abakan in September 1952. There it was stated bluntly that the Kranoyarsk party and administration chiefs had the habit of drawing up economic and cultural plans for Khakassia without consulting the local organs about them.[25] In other words, Khakass autonomy exists only on paper.

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The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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Priroda /Nature/: issued by the Academy of Science of the USSR; 12 issues appear annually; published in Moscow.

Pravda: daily newspaper, Moscow.

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1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

PREFACE

This book, though self-contained, is the continuation of *Russia and her Colonies*. It deals with Russian colonization and Soviet nationalities (colonial) policy in a vast territory which I have described, for lack of a better term, as the 'Soviet Far East'. From the official Soviet point of view, the Soviet Far East comprises all territories of the U.S.S.R. situated to the east of Lake Baikal. It covers the Autonomous Republics of Yakutia and Buryat-Mongolia as well as the whole expansive Pacific coastal areas of the Soviet Union reaching from the Bering Straits down to Vladivostok. On the whole, I have accepted this official definition of the 'Soviet Far East' but I have added to it the Mongol People's Republic, the former People's Republic of Tuva, and a number of small nationalities which are closely connected with the latter.

Few foreigners have visited the Soviet Far Eastern territories during the last fifteen or twenty years and most of these few were not exactly 'visitors' but were inmates of Far Eastern forced labour camps. Some of them, like Mrs. Elinor Lipper, have written moving and revealing accounts of their experience, but naturally they could not deal with the problems of Soviet colonial policy in the Far East except in a few casual though valuable remarks. The only group of foreigners given a chance to travel extensively as tourists in the Soviet Far East and to visit even such normally prohibited places as Magadan and Irkutsk consisted of the former United States Vice-President, Henry Wallace and his entourage. The Wallace trip took place under the close supervision of the Soviet Police Ministry. This fact alone made it impossible for Mr. Wallace and the members of his mission to get access to the more essential relevant material on Soviet colonial policy in the Far East.

The isolation of the Soviet Far East from the outside world was completed in the second half of 1948. In August of that year the only Western diplomatic representation in the whole of Soviet Asia, the American Consulate-General in Vladivostok, was closed down at the request of the Soviet authorities. On September 30th, 1948, the Soviet Ministry of Foreign Affairs issued a circular which listed as forbidden areas practically all administrative units of the Far East from Irkutsk to Vladivostok.

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● 114 In these circumstances, for any study of the problems of the Soviet Far East one has to rely almost exclusively on published Soviet material, and even there one faces considerable difficulties. The Moscow Press contains only scanty and sporadic information about the problems of the Soviet Far Eastern territories and the literature which the central state publishing houses produce about them is poor. From the Soviet Far East, itself, books, pamphlets and journals have reached the non-communist world only on a few occasions and it is usually a question of luck or coincidence whether a given book or pamphlet on the Soviet Far East becomes available abroad or whether it can be obtained in a particular country.

As every student of Soviet affairs knows, the term 'Soviet sources' includes not only positive statements but also omissions. The silence observed in official Soviet quarters and in their press about a previously much advertised institution, a prominent personality, or even an entire people, has often had historical significance. Experience has shown that such 'negative' evidence though not ideal from the point of view of the historian is usually reliable. I have used it in this book in a number of instances, particularly when trying to disentangle the story of Marshal Blyukher's downfall and in describing the fate of the Korean and Chinese minorities in the Soviet Far East.

In view of the scarcity of straightforward documentary material I have also drawn on a number of Soviet novels, plays and poems which touch upon the problems of the Far East. By force of circumstance Soviet writers are, as a rule, highly responsive to the wishes of the political leaders of the Soviet State. It is therefore legitimate to consider Soviet *belles-lettres* as a fairly accurate reflection of the official communist approach towards the nationalities question and other aspects of the Soviet Far East. The gaps in my sources are nevertheless colossal and there is little hope that they can be filled as long as Soviet Russia and its sphere of influence remain virtually sealed off from the rest of the globe.

My sincere gratitude goes to those friends who have sacrificed much time to read either the manuscript or the proofs of this book which owes a great deal to their frank criticism and valuable suggestions.

September 21st, 1953 WALTER KOLARZ

/7/ FORWARD

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Having been occupied for years with drawing up a comprehensive scientific study of the land of the Soviet Union, I have decided to cut off a piece of this country and to postpone the description of the whole country. For this I have selected the Far East for specific, authoritative reasons. It is of course known that Russia and also the Soviet Union transfer the emphasis in their political activity according to the circumstances at the time. At one time it lies in Europe, i.e. in the extreme west as viewed from the total expanse of Russia, and then again it lies in the opposite section of this immense empire, which the Russians and we too designate as the Far East. The latter is at present the case: the Soviet Russian Far Eastern regions constitute a base and a point of departure. The description of these regions in their basic geographic traits and in their economic bases and problems is the main task assigned to this work.

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The present work rests both on my own knowledge obtained on my trips and on detailed study of all available literature. My personal knowledge is limited, to be sure, to only a part of the Soviet Russian Far East; but nevertheless I have not hesitated to treat all regions. Decisive for me in this connection was the thought that even the best known Russian geographers, to whom we are indebted for a description of the entire Russian area, were acquainted with only part of the land from their own experience, and for the rest they had to rely on other researchers, their descriptions and findings. I may assert the same for the present work. In this connection it must be stated that Soviet scientific research has done work worthy of recognition. It is only regrettable that the numerous and valuable results of this research are not made accessible to foreign science. This applies to important branches of research in geography and especially to economics.

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In the subtitle this work is designated as a survey of the land and the economy, and it also shall not be more nor less than that. The space at my disposal doesn't permit going into great detail on the historical development or on the individual regions in the special section, as perhaps might be /8/ desired. It would have been possible; but it would have required volumes. Accordingly the treatment was consciously limited to broad lines in order to give, in addition to an overall view, a clear picture of the individual parts. In the

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-1-12
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" It is thus shown that our 'shaman' had its origin in the Tungusian languages, in all of which the word indeed is known as šaman or saman, and with several other variations to be noted hereafter. It would be reasonable to regard the term as of native origin, for it is not likely that the name of a religious institution and function so characteristic of all the tribes of northern Asia should be borrowed from an outside quarter. Nevertheless it was possible that at a time when little was known about Siberian shamanism, and when rigid philological principles were not yet established, the theory could be advanced that Tungusian saman or saman were to be derived from the Chinese ša-men, itself a transcription of Pali samana corresponding to Sanskrit cramana, a technical term for the designation of a Buddhist monk or ascetic. The germ of this idea was well prepared as early as the eighteenth century. The Augustinian Pater A. Georgi(1) states correctly

1. Alphabetum Tibetanum (Rome, 1762), p. 222.

that the Samanaei mentioned by Clemens Alexandrinus(2)are the adherents of Buddha,

2. In fact Clemens avails himself of the form Sarmanai.

and in this connection refers to La Croze, who already hazarded the combination of the

Samanaei with the shamans of the Tungusians (le nom de schaman est un nom de religion d'un peuple tartare, voisin des frontieres de la Chine'). Sanskrit not yet being well known at the time of La Croze and Georgi, the origin of the Greek term Samanaioi escaped them; this is what the philologists of the nineteenth century supplied. (3)

3. Maturin Veyssiere La Croze was born at Nantes in 1661, joined the clergy, suffered persecution on account of his liberal views, fled to Germany, where he turned a Protestant in 1696, and was made a member of the Academy of Sciences of Berlin, where he died in 1739. His work Histoire du Christianisme des Indes, to which Georgi refers, unfortunately is not accessible to me. La Croze was a scholar of wide knowledge and linguistic ability: he was the first who had a presentiment of the relationship of Indian with Persian.

Which of them was the first to assert the connection of the Siberian šaman with the Indian term I am unable to ferret out; this point is immaterial, as the question is merely that of the history of an error. D. Banzarov(4) was inclined, without giving a specific

4. Černaya v'ära, p. 34 (see p. 366).

reference, to fix the responsibility on F. Schlegel, according to whom[363]the çramana among the crude tribes of Central Asia transformed themselves from hermits into shamans. I believe that Banzarov had in mind Friedrich von Schlegel (1772-1829), romantic poet and Sanskrit scholar, who published in Heidelberg, 1808, an essay under the title Über die Sprache und Weisheit dor Indier, ein Beitrag zur Begründung der Alterthumskunde. (1) This is the only one of his works in which such a statement might be

1. An English translation was edited in London, 1889, in F.v. Schlegel's Aesthetic and Miscellaneous Works.

supposed to occur, but on a cursory perusal of this book I am unable to trace it. The idea itself being romantic, there would be no reason to wonder that it took its root in the Romantic School. At all events it was alive in the first part of the nineteenth century. The French sinologue J.-P Abel-Rémusat(1788-1832)became a champion of this theory.(2)

2. Recherches sur les langues tartares (Paris, 1820), p. 133, and Observations sur la doctrine samanéenne et la triade suprême (Paris, 1831).

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116, 197, 756, 114

An ingenious scholar of the type of J. Klaproth (3) was capable of saying, 'Les peuples

3. Mémoires relatifs á l'Asie (Paris, 1828), vol. III, p. 67.

tartares ont sans doute reçu le mot chaman de l'Inde avec le bouddhisme, car il est Indien d'origine, et signifie un homme qui a vaincu toutes ses passions.' In 1857 Max Müller(4)

4. Chips from a German Workshop, vol. I, pp. 233-234.

of Oxford wrote,

> Shamanism found its way from India to Siberia via Tibet, China, and Mongolia. Rules on the formation of magic figures, on the treatment of diseases by charms, on the worship of evil spirits, on the acquisition of the supernatural powers, on charms, incantations, and other branches of Shaman witchcraft, are found in the Tanjur or the second part of the Tibetan canon, and in some of the late Tantras of the Nepalese collection.

Needless to add that the magical writings of the Tanjur are unknown to the shamans of Siberia and have nothing to do with Siberian shamanism. Still less is it intelligible how Müller could say that ' the only trace of the influence of Buddhism among the Chudic races, the Finn, Lapp, etc., is found in the name of their priests and sorcers, the

shamans.' The word shaman is foreign to any Finno-Ugrian language; it found its way into Finnish (shamani) and Hungarian as a scientific term only, in the same [364] manner as into the Indo-European languages. A. H. Sayce (1) has the following;

1. Introduction to the Science of Language, vol. II, p. 293

> In shamanism, so called from the Shaman or Siberian sorcerer, who is himself but a transformed cramana, or Buddhist missionary priest, we rise to a higher conception of religion.
>
> These superstitions were tenaciously upheld under the influence of the romantic movement of the pan-Indianism, which held the minds of scholars enthralled in the first part of the nineteenth century, and the germs of which are not yet entirely exterminated.
>
> True it is that the Sanskrit word çramana with the Prākrit form samana has become widely known outside of the pale of India. It reached the ears of the Greek writers on India, who described the Buddhist monastics under such names as Sarmanes, Sarmanai, or Samanaioi. The first of these names was recorded by Megasthenes, (2) though the

2. Strabo XV, I, 59.

aingle text of Strabo from which all the existing codices have been copied offers the

erroneous transcription Garmanes. (3) The word has also passed into early Arabic

3. The texts in question are easily accessible in J. W. McCrindle, Ancient India as described in Classical Literature, pp. 65, 168, 170. See further C. Lassen, 'De nominibus quibus a veteribus appellantur Indorum philosophi,' in Rhein. Museum für Philol., vol. I, 1833. pp. 178-180, and Indische Alterthumskunde, vol II, p. 700; E. Burnouf, Introduction à l'histoire du Buddhisme indien, p. 245; T. Watters, Essays on the Chinese Language, p. 403; S. Levi, Journal asiatique (1911), I, p. 445.

records for the designation of the Indian and Bactrian Buddhists (for instance, in Masúdi, Gurdezi, and Abu'l Faradj) in the form samaniyya, while in later literature the form śaman was adopted. (4) In Firdausi's Shāhnāme, completed in A. D. 1010, we

4. Geza Kuun, Keleti Szemle, vol. IV, 1903, p. 133; G. Ferrand, Textes géographiques arabes relatifs à l'Extreme-Orient, vol. I, p. 131. The Mohammedan writers were perfectly conscious of the fact that the term hailed from India and denoted the

Buddhists of India and China. See particularly D. Chwolsohn, Die Ssabier und der Ssabismus (St. Petersburg, 1856) vol. I. pp. 165, 214, 217, etc. As far as I know, the shamanistic religion of Siberian tribes is not mentioned by any early Arabic or Persian author.

find saman in the sense of a worshipper of idols, and this Persian word likewise is traced to Sanskrit çramana and its congeners. (5) Again, it bears no relation to 'our'

5. P. Horn in Grundriss der iranischen Philologie, vol. I, pt. 2, p. 7; K. Vullers (Lexicon persico-latinum, vol. I, p. 466) renders the term by idololatra and idolum.

or the [365] Siberian shaman but evidently refers to Indian Buddhists, for these śamans say 'Our religion is one of peace and quiet, and fighting and slaying is prohibited, as well as all kinds of shedding of blood.' (1) Finally the Indian word has been traced in the

1. Compare the quotation in H. Yule, Hobson-Jobson, P. 820.

newly discovered Indo-European language styled Tokharian in the form samāne; and

this induced A. Meillet to formulate the opinion that the Tokharian form (not a Prakrit form of Sanskrit çramana) would account for the Tungus word šaman. (2) With all

2. A. Meillet, 'Le Tokharien,' Indogermanisches Jahrbuch (Strasburg, 1914), vol. I, p. 19.

respect due to the scholarship of this eminent philologist it must be admitted, however, that there is a far cry from Tokharian to Tungusian, that there is no evidence for any contact of these two groups, and that the Tungus notion of a shaman is radically different from the conception of a Buddhist monk. If two words in geographically remote languages are physically alike or similar, but fundamentally diverse in meaning, it is safe to assume that the face resemblance is purely accidental.

Indeed this theory was brilliantly antagonized as early as 1842 by W. Schott, and H. Yule, (3) accepting his verdict, reached the conclusion, 'Whether the Tungus word is

3. Hobson-Jobson, p. 820

in any way connected with this or adopted from it [that is the Sanskrit-Pali term], is a doubtful question. 'Schott has devoted no less than three studies to this

problem (4) in which he endevored to dissociate saman from samana. His arguments

> 4. 'Über den Doppelsinn des Wortes Schamane und über den tungusischen Schamanen-Cultus am Hofe der Mandju-Kaiser,' Abhandlungen Berliner Akademie, 1842, pp. 1-8; 'Wohin gehört das Wort Schamane?' in his Altaische Studien, no. 3, ibid., 1867, pp. 138-141; and 'Das Wort Schamane,' in Erman's Archiv fur wissenschaftliche Kunde von Russland, vol. XXIII, 1865, pp. 207-210.

are briefly as follows: the Chinese strictly descriminate between Manchu saman (shaman) and Sanskrit çramana, and never confound a shaman and a Buddhist monk, the two having totally diverse functions; a direct or indirect connection of Tungusian tribes with India is unproved; Buddhist missionaries never advanced into regions inhabited by Tungus (5)[366]

> 5. As emphasized in my article 'Burkhan,' Journal American Oriental Society (1917), pp. 390-395, there is no trace of Buddhism in the religion of the Tungusian peoples on the Amur.

it would be strange if they should have borrowed the only word in their language for the designation of their national priests; the forms of shamanism are uniform in a vast

territory extending from Lappland to the Bering Sea and far beyond into America; Vasilyev's hypothesis that shamanism should be a caricature of ancient Buddhist sorcery and jugglery and have been brought into existence by such influences is a mere phantom; the outward resemblance of the words saman and samana is purely fortuitous. Schott's etymological explanations of the word from Samoyed are not convincing, but his remark that Tungusian sam possibly is anciently related to Turkish kam testifies to great foresight and ingenuity; and this thesis, as will be seen, can now really be proved. Also Ch. de Harlez (1) joined the ranks of the adversaries of the Indian hypothesis, reiterating in

1. La Religion nationale des Tartares orientaux (Bruxelles, 1887), p. 28.

the main Schott's arguments. In Russia, it had been severely criticized as far back as 1846 by Dordji Banzarov, a Buryat and an excellent Mongol scholar. (2) Nevertheless

2. His works were collected and edited by Potanin in 1891 under the title Černaya v'ara ili samanstvo u Mongolov i drugiya stat'i ('The Black Faith or Shamanism among the Mongols and Other Articles'). Regarding the word shaman see p. 34.

in Russian dictionaries also the nightmare of the cramana is perpetuated. (3) As it

3. For instance, in Gor'aev, Sravnitelny etimologiceski slovar' russkago yazyka, p. 418.

happens, twilight reveries appeal more to the multitude than plain reason and continue to live even if abandoned by the thinking minority; it is not always the best and fittest that survives. The ghost of the Indian çramana still haunts the poor shaman in our standard dictionaries and cyclopaedias (see Webster, Nouveau Larousse, and Littre, Dictionnaire de la langue française; Schaff-Herzog Religious Encyclopedia, vol. X, p. 385; Funk and Wagnalls' Dictionary offers even a 'Persian-Hindustani shaman, pagan'!) (4) It is a relief, therefore, to read in the new Oxford Dictionary,

4. Even in the 7th edition of O. Pexchel's Völkerkunde (p. 274) the cramana still holds way.

The Persian shemen, idol, idol temple, sometimes cited as the source, is unconnected. Evidence seems to be wanting for the plausible suggestion that the Mongolian word is an adoption of Chinese sha men, an ordained member of a Buddhist fraternity.

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-12
116, 197, 756, 114

Eliminating 'plausible' and substituting 'Tungusian' for [367] 'Mongolian' this statement marks a progress in lexicographical literature. So there is hope that our great-grandchildren will perhaps be treated to a correct definition in the dictionaries of the following century."

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-14
116, 114, 171, 197, 756

"The Hungarian scholar J. Németh (1) has attacked the problem in the right spirit,

> 1. 'Über den Ursprung des Wortes šaman und einige Bemerkungen zur türkischmongolischen Lautgeschichte,' Keleti Szemle, vol. XIV, 1913-14, pp. 240-249.

and ably solved it by means of a sane philological method. A schooled phonetician, he has successfully worked for several years on the phonetic history of the Turkish and Mongol languages and established very interesting correspondences of phonetic phenomena in these two linguistic families. In the study cited he advances the law that primeval Turkish initial k' (palatalized k) has developed into Tartar k, Čuva j, Yakut x (spirant surd as in German ach), Mongol ts, č, and Manchu-Tungusian s, ś, or š. He gives seven examples to this effect, the first of which is:

Turkish (Uigur and in the dialects of southern Siberia) kam or anciently q'am (shaman), in some dialects kŭär, dum (with such derivations as kamdi, to prophesy; kamla, to heal; kamna, to shamanize; etc.). Čuvaš jum, jumeś (shaman); im-jum (durative charms). Manchu saman, Golde sama, ś'ama, Olča šam, Oročon šama, Tungus on the middle Amur saman, Tungus of Udsk saman and šaman, Kondogir and Wilui Tungus xaman.

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-2
116, 114, 171, 197, 756

Németh concludes that the origin of the much disputed word 'shaman' is thus definitely solved, and that it is an ancient property of the Turkish-Mongol languages. The phonetic alternation determined by him is perfectly correct and Manchu-Tungusian sam, s'am, or šam (2) is indeed the exact phonetic equivalent of Turkish kam. (3) Apart

2. This in fact is the stem of the word, not as formerly believed by some scholars, sa-, which was explained from Manchu sa- (to know). Németh justly rejects this derivation. By the way, 'Schott,' the father of this etymology, disavowed it himself in his second treatise on the word shaman, quoted above. D. Banzarov (l.c., p. 35) justly recognized sam as the stem.

3. It was hitherto believed that the word for shaman was different in all languages of Siberia, while there is a fairly uniform designation for the female shaman (udagān, utygan, ubakxan, etc.). Hence V. F. Troščanski (Evolutsiya černoi v'ary [šamanstva] u Yakutov--'Evolution of the Black Faith among the Yakut,' Kazan, 1902, p. 118) was prompted to the theory that the Siberian tribes originally had only female shamans, and after the time of their separation instituted also male shamans. This reconstruction is contestable on many grounds; for instance, we have male and

> female shamans . . [368] co-existent in the most ancient days of China. The supposition on which the conclusion is based is now no longer valid: the word for the male shaman is in fact identical throughout from the Turkish to the Tungusian and Gilyak tribes.

From the Tungusian series noted by Németh [368] after Grube's Goldisches Wörterverziechnis, several other forms of the word have become known. De la Brunière (1)

> 1. In H. E. M. James, The Long White Mountain or a Journey in Manchuria (London, 1888), pp. 433, 434

recorded it in 1846 among the Golde as tsama or tsamo. I heard only s'ama from the Golde, in the same manner as Shimkevič, (2) but in view of the existence of several

> 2. Materialy dl'a izučeniya šamanstva u Goldov. p. 8.

Golde dialects such a form many be regarded as possible. A Rudnev (3) noted from a

> 3. Novyia dannyia po živoi mandžurskoi r'äči i šamanstru (New Data

on the Live Manchu Speech and Shamanism), p. 9.

Manchu, who was still conversant with his mother tongue, the following: sáma, sáman, sáma (nazalized a), and sāmǎn.

The Gilyak style the shaman čam (tšam). This certainly is a loan-word received from Tungusian, (4) but it is not necessary to assume that the change of the initial š

> 4. There is no doubt that the shamanism of the Gilyak is derived from and a weak echo of that of the neighboring Amur tribes. There are but a few shamans among the Gilyak, and shamanizing is rarely practised by them (see for the present L. von Schrenck, Reisen und Forschungen im Amur-Lande, vol. III, p. 752).

or s into the palatal explosive surd is due to the Gilyak; for this alternation is common within Tungusian, so that a Tungusian čam borrowed by the Gilyak may be presupposed for some Tungusian dialect spoken in the neighborhood of the Gilyak. Compare the following examples: Manchu nesuken and nečin (equal)--Jučen nušin; Manchu ničuxe (pearl)--Old Jučen inšuko or inšuxa, modern Jučen ninčuxe; or vice versâ, Jučen ančun (gold)--Manchu aisin."

10: Laufer--368-370 E-3 (no date) 1917 Northeast Asia-1-5
116, 114, 177, 197, 756

"It has been said that the word šaman is found only in the eastern part of Siberia and in Manchuria. There is, however, one well-authenticated instance on record to the effect that it was known also in northwestern Siberia. In the earliest account that we have of the Irtysh-Ostyak, written in 1715 by G. Novitski, their priests were styled šamančik.(5)

5. B. Munkácsi, Keleti Szemle, vol. IV, 1903, p. 88.

In view of the early date of this record we cannot well assume that this is a loan-word recieved through intercourse with the Russians. Whether the term still exists I [369] am unable to say from the sources at my disposal. S. Patkanow (1) gives for the

1. Die Irtysch-Ostjaken, pt. I, p. 120.

shamans of the Ostyak only the name tonx-ort. (2)

2. Consulting Castrén's vocabulary in his Versuch einer ostjakischen Sprachlehre I find that tonx means idol, and ort, workman, slave. If accordingly tonx-ort should mean servant of the idols, the term might hardly be claimed as a primeval designation of the shaman.

The Turkish word kam is of ancient date(3)It is attested (and this is its earliest occurrence) in the Chinese Annals of the T'ang dynasty (618-906), where it said with respect to the Kirgiz(4) that they designate their sorcerers or shamans (Chinese wu) with the word kam. The last character now reads kan, but was anciently possessed of a final labial nasal, which is still preserved in the dialects of southern China. Chinese wu is a very ancient term for the native medecine-men.(5) The word kam, further, is found in Uigur(6)

3. The Russians have derived from it the verb kamlat' (to shamanize, to conjure, to spell, to prophesy) and the noun kamlanie (the act of shamanizing).

4. Regarding this name and its ancient Chinese transcriptions see Pelliot and Laufer, T'oung Pao, 1916, p. 295.

5. Regarding their activity see Chinese Clay Figures, pp. 109-200.

6. In the Kudatku Bilik, written in A. D. 1068 (H. Vámbéry, Uigurische Sprachmonumente, p. 221).

and in the Codex cumanicus of 1303. (7) It is also used by the Persian historian Rashid-

7. W. Radloff, Aus Sibirien, vol. II, p. 67. Nemeth overlooked these data but it is important to note the wide distribution of the word in time and space.

eddin (1247-1318) in 1302, with reference to the shamans of the Mongols. (8) The existence

8. F. Von Erdmann, Temudschin, p. 553, E. Blochet, Introduction à l'histoire des Mongols de Rashid Ed-Din, p. 165.

of the Tungusian word šaman can now be traced to the first part of the twelth century, for Pelliot (9) has found it as a Jučen word in a Chinese gloss, where it is transcribed in the

9. Journal asiatique, 1913, mars-avril, pp. 466-469.

form šan-man and explained as a sorceress. The Chinese transliteration would presuppose Jučen form šamman. Indeed we still meet forms with double m in the dialect of the Wilui Tungus, --šamman and xamman. (10) The latter with initial spirant represents the

10. Recorded by R. Maack, Wil'uski okrug (The District of Wilui), pt. 3, p. 116.

missing link between Turkish kam (in the language of the Soyot or Urangkhai xam) and the Tungusian forms with initial sibilant. The [370] alternation of k and x is well known, (1) likewise x, h, and s, alternate in Tungusian dialects. (2) For this reason

1. W. Radloff, Phonetik der nördlichen Türksprachen, p. 108.

2. A. Schiefner, Melanges asiatiques, vol VII, 1877, pp. 338-339,

it is justifiable to correlate the forms kam and xam with Yakut xammā, xamsā (to move, to be agitated; xām, to step, to stride), (3) and to interpret the significance of the word

3. O. Böhthingk, Jakutisches Wörterbuch, P. 79.

from the shaman's peculiar behavior, his solemn and pompous pacing, his ecstacy, his convulsions, his frantic leaps and dancing. (4)

4. This explanation was first given by V. F. Troščanski, Evolutsiya černoi v'äry (šamanstva) u Yakutov (Evolution of the Black Faith among the Yakut),

(Kazan, 1902), p. 117. D. Banzarov (Černaya v'ära, p. 35) held a similar view, but arrived at it through a different process by connecting the word with Manchu samarambi and Mongol samoromoi, samagu; aside from the fact, however, that these words do not have the meaning required, or forced into them by Banzarov, they can by no means be reduced to the stem sam.--Kam is not a Yakut word for the shaman, as wrongly stated by A. van Gennep ('De l'emploi du mot "chamanisme,"' Revue de l'histoire des religions, vol. 47, 1903, p. 52, the Yakut term is oyun."

10: Laufer--370-371 E-3 (no date) 1917 Northeast Asia-1-3
116, 114, 197, 756

"Németh gives no form of the word for Mongol, and explains the absence of a corresponding word in this language through a characteristic trait of the Mongols to whom the use of many words was tabooed; owing to such a taboo, the word šaman should have been lost. This is an arbitrary, far-fetched, and unnecessary theory. First of all, the word šaman does occur in Mongol, at least it is listed as a Mongol word in Kovalevski's and Golstunski's Mongol dictionaries. Whether it is frequent is another question. I never found it in a Mongol text. This is accounted for by the fact that the common term for a shaman in Mongol is bügä, bögä, Buryat buge and bö, corresponding to Turkish bögü, Djagatai bügi (sorcery), bügiči (sorcerer), Osmanli büi (sorcery).(5)

5. According to I. J. Schmidt (Geschichte der Ost-Mongolen, St. Petersburg, 1826, p. 416), kami should be the Mongol name of the shamans. It would hardly be necessary to point out this blunder, had it not been immortalized in Yule's Hobson-Jobson (p. 820). There is no Mongol word kami with such a meaning. Schmidt found it in the Mongol chronicle of Sanang Setsen as the proper name of a Tibetan Bon-po, and this name reads correctly Khami or Xami. Schmidt's interpretation, evidently suggested by Turkish kam, is baseless and purely imaginary.

10: Laufer--370-371 E-3 (no date) 1917 Northeast Asia-2
116, 114, 197, 756

This series seems to bear some kind of relation to Chinese bu, wu (shaman), buk, puk (to divine), and Tibetan aba (pronounced ba, sorcerer); (6) but how [371] this

6. Compare my concordance in Toung Pao, 1916, p. 68.

relation is to be explained is beyond our present knowledge. The type kam--sam is possibly preserved in Mongol in a somewhat disguised form. According to the phonetic law established by Németh, the Mongol initial corresponding to Turkish k and Tungusian s should be ts, č. Thus we get at Mongol tsam, čam, that means a dance, and at present refers in particular to the religious pantomimic dance-performances of the Lamas in which, as is well known, many ancient shamanistic notions and rites of pre-Buddhistic times have survived. The same word in the same sense is encountered in Tibetan as č'am or ts'am (written ač'am), and it would be justifiable to regard the Mongol as a loan-word adopted from Tibetan; (1) but considering the fact that the

1. In a forthcoming study on Loan-Words in Tibetan, where an almost complete list of Mongol loan-words occurring in Tibetan is given, the writer has set forth the difficulties in recognizing the mutual loan-words

> of the two languages. Mongol and Tibetan have a certain number of words in common, partially due to a prehistoric contact, partially due to allively intellectual interchange in historical periods; and it is not always possible to decide in each and every case which side is the recipient, and which the borrower.

word is isolated (that is, not found in any other Indo-Chinese language), it is likewise permissible to stamp the Tibetan as a Mongol loan. For the rest, I give with all reserve this theory of a possible connection of Mongol tsam with Turkish-Tungusian kam--sam (religious dancer).

At any rate it is obvious that the word šaman has now legitimately secured an absolute and irrevocable decree of divorce from its pseudo-mate çramana, samana, or ša-men, and that this mismated couple cannot live together any longer. Tungusian saman, šaman, xaman, etc., Mongol šaman, Turkish kam and xam, are close and inseparable allies grown and nourished on the soil of northern Asia, --live witnesses for the great antiquity of the shamanistic form of religion."

4: U.S. Army G-4 (no date) 1956 RRI Siberia RRI

HEADQUARTERS
UNITED STATES ARMY FORCES, FAR EAST
AND EIGHTH UNITED STATES ARMY (REAR)
Office of the Psychological Warfare Officer
APO 343

ANALYSIS #070156

Klymarchik/hy/266-2755
18 January 1956

000 USSR: MAGADAN, CAPITAL OF THE KOLYMA GOLD EMPIRE

Part I: The Rise of Magadan (1927-1946)

1) Introduction
2) Physical Features of Kolyma
3) Administration
4) Population
5) Development of the Kolyma Area (1927-1931)
6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932
   a. The Leadership of Berzin (1932-1937)
   b. Violence under Garanin (1937-1938)
   c. Blundering of Vyshnyevetsky (1938-1941)
   d. The Regime of Nishikov (1941-present?)
7) The Kolyma Buildup (1932-1946)
8) The City of Magadan
9) Summation

- - - - - - - - - - - - - - - - -

Part I. The Rise of Magadan (1927-1946)

316 466 1) Introduction: Until the early 1930's the Kolyma region in the northeastern section of Siberia was practically deserted; the only population consisted of several native tribes who were engaged primarily in reindeer breeding. Approximately 175 independent miners were also in the area for the purpose of extracting gold from the rich fields around the Kolyma River; however, in 1931 the Soviet Government, at that time completely lacking gold reserves, began one of its largest enterprises until that time—the exploitation of Kolyma gold on an increasing scale. Labor was primarily prisoners, both criminal and "counter-revolutionary," who were sent to the Magadan area by the hundreds of thousands yearly in an attempt to build the area into a self-sufficient region with only one mission—ship every available ounce of gold to Moscow.

• 115 121 The information contained in this report is primarily derived from published reports made by prisoners who have returned from the Kolyma area after having served their prison terms as forced laborers. Although admittedly this report is historical in nature rather than a concise evaluation of the present situation, it was considered appropriate, due to a lack of general information and knowledge of the area, to present

115 121 a survey of the development and buildup of the Kagadan-Kolyma area with the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

[134] 631 2) Physical Features of Kolyma: Kolyma is that region in the northeastern part of Siberia, named for the Kolyma River; the boundaries have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 631 471 Be that as it may, there is ample evidence to support the contention that neither of the two above cited political divisions are technically correct; due to the establishment of Dalstroy (Far Eastern Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 625 3) Administration: The Constitution of the USSR is not formally operative throughout this vast area[1] (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

1 [i.e., the Kolyma region of Siberia — Analyst]

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THE PEOPLES OF THE SOVIET FAR EAST

1: Kolarz J-4 (no date) 1954 RRI Siberia RR1

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THE PEOPLES OF THE SOVIET FAR EAST

BY

WALTER KOLARZ

FREDERICK A. PRAEGER
NEW YORK

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1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

By the same author:

MYTHS AND REALITIES IN EASTERN EUROPE

RUSSIA AND HER COLONIES

000

'BOOKS THAT MATTER'

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PREFACE

This book, though self-contained, is the continuation of *Russia and her Colonies*. It deals with Russian colonization and Soviet nationalities (colonial) policy in a vast territory which I have described, for lack of a better term, as the 'Soviet Far East'. From the official Soviet point of view, the Soviet Far East comprises all territories of the U.S.S.R. situated to the east of Lake Baikal. It covers the Autonomous Republics of Yakutia and Buryat-Mongolia as well as the whole expansive Pacific coastal areas of the Soviet Union reaching from the Bering Straits down to Vladivostok. On the whole, I have accepted this official definition of the 'Soviet Far East' but I have added to it the Mongol People's Republic, the former People's Republic of Tuva, and a number of small nationalities which are closely connected with the latter.

Few foreigners have visited the Soviet Far Eastern territories during the last fifteen or twenty years and most of these few were not exactly 'visitors' but were inmates of Far Eastern forced labour camps. Some of them, like Mrs. Elinor Lipper, have written moving and revealing accounts of their experience, but naturally they could not deal with the problems of Soviet colonial policy in the Far East except in a few casual though valuable remarks. The only group of foreigners given a chance to travel extensively as tourists in the Soviet Far East and to visit even such normally prohibited places as Magadan and Irkutsk consisted of the former United States Vice-President, Henry Wallace and his entourage. The Wallace trip took place under the close supervision of the Soviet Police Ministry. This fact alone made it impossible for Mr. Wallace and the members of his mission to get access to the more essential relevant material on Soviet colonial policy in the Far East.

The isolation of the Soviet Far East from the outside world was completed in the second half of 1948. In August of that year the only Western diplomatic representation in the whole of Soviet Asia, the American Consulate-General in Vladivostok, was closed down at the request of the Soviet authorities. On September 30th, 1948, the Soviet Ministry of Foreign Affairs issued a circular which listed as forbidden areas practically all administrative units of the Far East from Irkutsk to Vladivostok.

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PREFACE

114 In these circumstances, for any study of the problems of the Soviet Far East one has to rely almost exclusively on published Soviet material, and even there one faces considerable difficulties. The Moscow Press contains only scanty and sporadic information about the problems of the Soviet Far Eastern territories and the literature which the central state publishing houses produce about them is poor. From the Soviet Far East, itself, books, pamphlets and journals have reached the non-communist world only on a few occasions and it is usually a question of luck or coincidence whether a given book or pamphlet on the Soviet Far East becomes available abroad or whether it can be obtained in a particular country.

As every student of Soviet affairs knows, the term 'Soviet sources' includes not only positive statements but also omissions. The silence observed in official Soviet quarters and in their press about a previously much advertised institution, a prominent personality, or even an entire people, has often had historical significance. Experience has shown that such 'negative' evidence though not ideal from the point of view of the historian is usually reliable. I have used it in this book in a number of instances, particularly when trying to disentangle the story of Marshal Blyukher's downfall and in describing the fate of the Korean and Chinese minorities in the Soviet Far East.

In view of the scarcity of straightforward documentary material I have also drawn on a number of Soviet novels, plays and poems which touch upon the problems of the Far East. By force of circumstance Soviet writers are, as a rule, highly responsive to the wishes of the political leaders of the Soviet State. It is therefore legitimate to consider Soviet *belles-lettres* as a fairly accurate reflection of the official communist approach towards the nationalities question and other aspects of the Soviet Far East. The gaps in my sources are nevertheless colossal and there is little hope that they can be filled as long as Soviet Russia and its sphere of influence remain virtually sealed off from the rest of the globe.

My sincere gratitude goes to those friends who have sacrificed much time to read either the manuscript or the proofs of this book which owes a great deal to their frank criticism and valuable suggestions.

September 21st, 1953 WALTER KOLARZ

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Copyright

1. THE SOUTH-EASTERN PART OF THE SOVIET FAR EAST

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I

THE RUSSIANS OF THE SOVIET FAR EAST

Outwardly there is no great difference between the Russian Far East and /86
the rest of the Soviet Russian Empire. The Communist Party seems to rule in Vladivostok and Khabarovsk as firmly as in Moscow and Leningrad. Nevertheless, the Russian Far East has an individuality of its own and has its special problems. Vladivostok lies as far away from Moscow as London does from Winnipeg, Capetown or Calcutta. Such a gigantic distance must have political consequences even in an autocratic or totalitarian state. In territories where Russia borders on China, Korea, Japan and the United States, the outlook of the local Russian inhabitants is bound to differ from that prevailing on the banks of the Don or the Volga. Geographical circumstances force the Russians of Vladivostok, Blagoveshchensk or Khabarovsk to feel themselves 'Far Easterners' ('Dalnevostochniki'), pioneers who have a special political and historic mission, incomparably more complicated than the tasks confronting the population of Central or Western Russia.

In Czarist Russia it was generally understood that the Far East was a 648
'special case'. Until Russia suffered defeat in the war against Japan in 1905 she looked upon her Far East as a base for the conquest of wide Asiatic territories – Manchuria, Korea, China and Tibet. There seemed to be no limit to her imperialistic ambitions. Japan's victory completely changed this situation. Russian expansion in the Far East met with a serious setback, and many Russians even doubted whether Vladivostok and other Far Eastern possessions of the Czarist Empire could be held for any length of time. Russia, it is true, was connected with the Pacific coastal areas by the Trans-Siberian Railway, but there was widespread fear that this link might not prove solid enough. In 1909 the well-known liberal monthly journal of St. Petersburg, *Vestnik Evropy*, warned the government that the Russian Far East might act towards Russia in the same way as New England had acted towards the English crown. The separation of the Pacific possessions from the Russian Empire appeared as a real danger which could be averted only by a policy of concessions and economic privileges. The writer of the article in *Vestnik Evropy* reminded his readers that the revolt of Britain's former North American colonies occurred over a question of customs

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648 duties and that this should be a lesson to Russia in dealing with her distant Far Eastern colonies.[1] A democratic and liberal Russia might well have granted special rights to the Russian Far East and perpetuated the freedom of customs duties which the ports of Vladivostok and Nikolayevsk enjoyed at the beginning of the century.* The Russian Far East might have achieved, within the Russian Empire, something approaching a dominion status. The democratic régime which was ready to open Russia's windows into the world collapsed in 1917 after only a few months' existence. But even the Soviet régime, which succeeded it, could not escape from the geographical peculiarities of the Far East and from the special mentality of the Russian 'Far Easterners'.

I. THE POLITICAL FRAMEWORK

THE FAR EASTERN REPUBLIC

635 642 In the early years of Soviet rule the special communist approach towards the Russian Far East found expression in the establishment of the 'Far Eastern Republic' (F.E.R.). This buffer state was set up by a decision of the Central Committee of the All-Russian Communist Party. The Republic was to appeal to the patriotism and to the anti-Japanese animosities of the Far Eastern Russians, but not to their sympathies for an international communism. It was to have a 'bourgeois democratic character'. Its constitution did not include any provisions about the setting-up of Soviets, but provided for a National Assembly to be elected by universal direct and secret ballot. The national flag of the Republic was red and blue and its coat of arms discarded the communist symbols, hammer and sickle. Instead, it showed an anchor and a pickaxe crossed over a wheat-sheaf. There were no 'People's Commissars' in the Far Eastern Republic, only ministers, and there was no 'Red Army', only a 'Revolutionary People's Army'.

186 Although the F.E.R. was founded by the Kremlin for mere tactical reasons some of its leaders took it very seriously and they wanted to transform the Republic into a living political reality. They demanded that the F.E.R., which reached in the west as far as Lake Baikal, should extend its territory to the Yenisey River, and they also pleaded for greater independence from Moscow than the Bolshevik Central Committee was willing to grant. Some quarters of the F.E.R. even toyed with

* Complete freedom from customs duties existed in the Russian Far East between 1862 and 1888. In 1888 customs duties were introduced for sugar, matches and kerosene and after 1901 duty had to be paid on industrial articles but not on agricultural produce (except for flour) nor on capital goods. Only Sakhalin and Kamchatka remained exempt. To attract more settlers freedom from customs duties was restored in 1904, but was finally abolished again in 1909.

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578 the idea of an American orientation and conducted a great deal of propaganda in the United States. A dispute broke out also among the Far Eastern communists as to the selection of the Republican capital. Those who stood for greater independence suggested that the capital should be established there where contact with the non-Russian world was most intimate, in Vladivostok. The Bolshevik Central Committee, on the other hand, realized the dangers inherent in such a move. It ruled that the headquarters of the Far Eastern government should be in the Russian city of Chita and not in the cosmopolitan port of Vladivostok.

Throughout its existence the F.E.R. had a very difficult time. Parts of the Republic were occupied by Japanese troops and others were the scene of white guard activities. Accordingly, the government of the F.E.R. exercised only a nominal sovereignty over certain of its provinces. Paradoxically enough, the Japanese occupation of the F.E.R. was not only the chief source of its weakness but also its principal *raison d'être*. The setting-up of the F.E.R. enabled the Russian Far Easterners, particularly the peasant colonists, to support Soviet foreign policy and the Soviet fight against foreign intervention without identifying themselves with the Communist Party and its economic aspirations. On October 25th, 1922, the last Japanese soldier left the Russian mainland and the need for a 'Far Eastern Republic' ceased automatically. The Constituent Assembly of the F.E.R., in which the communists had four-fifths of all seats, decided to hand over its powers to a 'Far Eastern Revolutionary Committee', the *Dalrevkom*, which was already a direct organ of the Soviet Government.

665
646 The decision of the Far Eastern Constituent Assembly did not mean that the Russians of the Far East were in any way united behind the Communist Party. The communists constituted a minority in the Far East even smaller than anywhere else in Soviet Russia. Early in 1922 they had only 7,000 members in the whole of the F.E.R., and this was on the eve of a purge which aimed at a reduction of the membership by 15 to 18 per cent.[3] The Party relied on the support of a section of the 'Far Eastern Trades Union Congress' (D.V.S.P.S.) which had 40,000 members; but how many of them really sympathized with the communists it is impossible to say. In view of its numerical weakness and isolation the communist movement in the Far East had to go carefully and had to make some concessions to regionalist tendencies. Many people in the Russian Far East continued to favour a special status for their homeland and hoped that after the abolition of the F.E.R. it would not become just another Soviet Russian province. At the beginning their hopes were not entirely betrayed.

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THE FAR EASTERN TERRITORY

636 During the whole period from 1922 to 1937–38 the Soviet Far East enjoyed a special position within the Soviet Union. From the administrative point of view the Soviet Far East formed one large unit, the 'Far Eastern Territory' (F.E.T.). It covered roughly one-eighth of the entire surface of the U.S.S.R. The F.E.T. existed from January 1926 until October 1938, but there was a slight amputation of the territory in 1930, when the districts of Sreten and Chita were detached. Militarily, too, the Soviet Far East had a semi-independent existence by the establishment, in August 1929, of the Special Far Eastern Army ('Osobaya Dalnevostochnaya Armiya') usually referred to by its initials as ODVA and a year after its foundation as OKDVA (Osobaya Krasnoznamyonnaya Dalnevostochnaya Armiya', meaning 'Special Far Eastern Army decorated with the Order of the Red Banner').

Both army commanders and administrators in the Far East showed a considerable degree of independence, which, in some cases, even expressed itself in open opposition to the régime. This is true, in particular of the party leaders of Vladivostok, a city which, like that other opposition centre, Leningrad, was a window into the world. The radical course, aiming at the liquidation of the remnants of private property, which the Bolshevik Party took after its Fifteenth Congress (1927) did not meet with approval in a trading centre like Vladivostok. Both Vladivostok and Chita became, in the late twenties, strongholds of a right-wing opposition and the Central Committee in Moscow had to dismiss the local party chiefs.[3]

[661]

185 578 Difficulties between the centre and the Far Eastern communists continued after the suppression of the right-wing deviation. Problems connected with the implementation of the First and Second Five-Year Plans were an almost inexhaustible source of disagreements. Already during the first Five-Year Plan period the State Planning Commission in Moscow had worked out big development schemes for the Far East, providing for the building of additional railways, an increase of coal and oil production, and far-reaching industrialization. When it became clear that many of the envisaged projects could not be carried out neither Moscow nor Khabarovsk wanted to take the blame for the failure. The central authorities complained about the inefficiency of the 'Far Easterners' and the latter denounced the lack of understanding of the officials at the centre. At the Sixteenth Party Congress, which was held in 1930, the spokesman of the F.E.T., Perepechko, referred to the 'hideous attitude of various central organizations' towards the economic problems of the Far East.[4] If it were not for this negligence, Perepechko asserted, the F.E.T. would carry out the basic tasks of the Five-Year

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185 578 Plan in three years. The later development showed that it took not three but ten years to reach the target figures which the first Five-Year Plan had fixed for the coal and oil production of the Far East.* The Central Government refused to admit that the shortcomings in the Far East resulted from deficiencies of all-Union planning, and tried to put the blame on local scapegoats who were charged with committing deliberate sabotage. More than that, the Central Government alleged that the Far Eastern administrators were 'Japanese spies', although they were, presumably, no more connected with Japan than the Leningrad opposition was linked with Germany. The Far Eastern communists, it is true, had shown great eagerness to establish commercial relations with other Pacific countries including Japan, but this had been done with the agreement of the centre.

THE PURGE OF THE 'CIVILIANS'

661 687 665 Although there was no evidence for charges of high treason the Soviet Government carried out a purge on a vast scale throughout the Soviet Far East. It would be incorrect to say that there was one big purge. There were at least two purges, one directed primarily against 'civilian' communists, and another aimed mainly at the army. The first purge, which was closely connected with economic shortcomings, started in the first months of 1937 and led to the disappearance of the head of the administration of the F.E.T., Krutov, and of the party secretary, Lavrentev. At the same time administrative heads and party officials were sacked all over the Soviet Far East. For many months there were no 'first secretaries' in many city committees and district committees of the Communist Party.

There is one aspect of the purge of the 'civilians' in the Far East which deserves special mention, the purge of the railwaymen. The railwaymen of the Far East were traditionally the backbone of the Communist Party in that distant part of the Soviet Union, and the solidity of Moscow's connection with the Pacific coastal areas depended largely on their efficiency. In the 'thirties' their job became increasingly difficult. Between 1933 and 1936 the freight turnover of the Far Eastern railways had increased three times. This was more than they could stand. The Far Eastern railway system broke down. A great many accidents occurred. The Government asserted that they were all engineered 'on instructions of the Japanese intelligence service.' The supreme responsibility for the wrecking of trains was officially attributed to Trotsky and to the

* Production of oil was to reach 464,000 tons by the end of the first Five-Year Plan in 1932. In 1933 output was 196,000 tons; in 1936, 308,000 tons, and in 1938, 360,000 tons. The coal target for 1932 was 4,000,000 tons. In 1933 output had reached 2,820,000 tons, and in 1936, 3,617,000 tons. The target for 1937 was 5,000,000 tons, but actual production in 1938 was only 4,758,000 tons.

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661 various members of the so-called 'Anti-Soviet Bloc of Rights and
687 Trotskyites' which was allegedly led by Bukharin. In the Far East itself
665 the Soviet Government staged a big trial of leading railway officials working on the Amur railway line, a sector of the Trans-Siberian railway. The trial took place in the town of Svobodny. All forty-four defendants were sentenced to death as 'Japanese spies'. They included the deputy head of the Amur railway line, the head of its planning department, the deputy head of the locomotive service and many other people of similar standing in the Far Eastern railway transport.[5] The sentence of Svobodny had considerable repercussions throughout the F.E.T. Sweeping changes took place not only in the top leadership of the Far Eastern railways but also among the rank and file of the railwaymen. Demobilized soldiers were rapidly trained for the railway and called upon to fill the gaps opened by the purges.

The man who, in 1937, carried out the purge in the Soviet Far East was a complete newcomer to the territory. His name was Vareikis, he was Lithuanian-born and had occupied various important positions in European Russia, as party secretary first of Voronezh and later of Stalingrad. He was also a member of the Central Committee of the Bolshevik Party. When he arrived in Khabarovsk in the spring of 1937 he seemed to possess the full confidence of Stalin, but by the end of the year he had lost it. He was charged with surrounding himself with spies and white guardists. A case in point was the editor of the largest Far Eastern newspaper *Tikhookeanskaya Zvezda* (Far Eastern Star), Shver, who was expelled from the party by a special decision of the Central Committee taken at the beginning of October.[6] Vareikis survived his friend only by a few days.

THE PURGE OF THE FAR EASTERN ARMY

661 The disgrace of Vareikis and his supporters carried the disintegration of
701 the party apparatus in the Far East a step further. Only one important force continued to exist in the F.E.T., the Special Far Eastern Army and its commander, Marshal Vasily Konstantinovich Blyukher. But it was clear that this last bulwark of Far Eastern 'autonomism' would, sooner or later, be affected by the big Stalinist clean up of Russia's military leadership. One of the defendants of the Tukhachevsky trial of June 1937, the commander of the Byelorussian Military District, Uborevich, had had important connections with the Far East. In 1922 he had been the liberator of Vladivostok and he had stayed in the F.E.T. for several years. There was another military person who was closely linked with Stalin's Far Eastern opponents, Gamarnik, the chief of the Political Administration of the Red Army and an Assistant People's Commissar for Defence. Had he not committed suicide he would most

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certainly have appeared in the Tukhachevsky trial. Gamarnik's presence in the Far East was frequently mentioned in the Soviet Press, the last time late in 1936, when he attended the autumn manœuvres of the OKDVA.[7] One of the last pictures which Soviet newspapers published of Gamarnik showed him with the Far Eastern deputies to the Eighth Congress of Soviets.[8] So there is no doubt that Gamarnik stood in close personal contact with some of the leading personalities of the F.E.T. It is possible that he had closer contacts with the civilian than with the military opposition in the Far East. This might explain why his fall from favour did not harm the Special Far Eastern Army directly, except for its political departments which were under Gamarnik's orders.[9] At any rate, the Tukhachevsky-Gamarnik *affaire* did not affect Blyukher's prestige immediately. Blyukher was even one of the judges who sent Tukhachevsky and his associates to the gallows: these judges, who also included Marshal Timoshenko and Marshal Budyonny, were officially referred to as 'the flower of our glorious army'.[10] In the months after the Tukhachevsky trial they served Bolshevik propaganda as examples that Stalin had not wiped out Russia's entire military leadership.

It seems that in the winter of 1937–38, Blyukher and his army reached the culminating point of their power in the Far Eastern Territory. The influence of Blyukher and his army was particularly visible in the elections which took place in December 1937 for the Supreme Soviet of the U.S.S.R., the first to be held under the new Stalin Constitution. Out of the nine deputies which the F.E.T. sent to the Soviet of the Union four belonged to the OKDVA, including Blyukher himself and his deputy, Mikhail Karpovich Levandovsky, who commanded the troops of the maritime region around Vladivostok. The fifth deputy, a submarine commander, represented the Pacific Fleet.* The party, the administration and the N.K.V.D.† had one deputy each. Only the ninth deputy represented the common people. He was a Stakhanovite worker in the timber industry.

When the Soviet parliament met in January 1938 Blyukher was elected a member of its presidium. In the following month, on Red Army Day, he was awarded the 'Order of Lenin'. At the end of May a meeting of 6,500 workers and peasants nominated him as a candidate for the elections to the Supreme Soviet of the R.S.F.S.R.[11] Until the

* The Soviet Pacific Fleet was built up between 1932 and 1937. In the first years of the Soviet régime a Russian Pacific Fleet was as good as non-existent; until 1932 it included but one single gun-boat. Describing the situation at the time of the arrival in Vladivostok of the first Red Navy commander in the Pacific, M. V. Viktorov, *Pravda* said pointedly 'There was a commander, there was also a Pacific, but no Pacific Fleet' (*Pravda*, March 29th, 1937.) It was Viktorov's achievement to create a Soviet Pacific Fleet in a matter of four to five years. He too was eliminated in the big clean-up of 1937-38.

† The N.K.V.D., the People's Commissariat for Internal Affairs, later Ministry for Internal Affairs (M.V.D.) is the ministry responsible for the Soviet police.

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701 end of July, Blyukher still appeared in public and was still in command in the Soviet Far East, but two rather strange things had happened. First, a carefully prepared party conference of the OKDVA, which was scheduled for the beginning of June, was cancelled at the last minute; and secondly, the OKDVA itself was suddenly renamed 'Far Eastern Front' ('Dalnevostochnii Krasnoznamyonnii Front'). The change occurred between July 5th and 6th, and must have greatly puzzled the Soviet public, which was as familiar with the initials 'OKDVA' as with U.S.S.R., N.K.V.D. and R.S.F.S.R.

The actual disappearance of Blyukher coincides with some major border incidents which the Japanese provoked on Lake Khasan during the last days of July and the beginning of August. The Soviet armed forces remained in control of the situation and killed over 400 Japanese. On the whole the incident on Lake Khasan was rather welcome to the Kremlin, for it gave the government the opportunity to prove that the efficiency of the army was not impaired by the purge. Moreover, the
[208] 'defeat of the samurais', as official propaganda styled the historic episode on the Manchurian border, supplied the pretext for a big campaign to strengthen the morale of the Soviet rear. All over the Soviet Union meetings were held in factories, collective farms and offices protesting against the Japanese aggression and sending greetings to the Soviet armed forces who were watching over the security of the Far Eastern borders. None of the resolutions adopted at these meetings contained the slightest reference to the once so popular Marshal Blyukher. The press gave all the credit for the speedy liquidation of the Khasan Lake incident to rank and file soldiers and junior officers, as if no general had been connected with the operation. Only considerably later was the new commander in the Far East mentioned – Grigory Mikhailovich Shtern.[12]

What happened to Blyukher and why it happened was never officially stated, except, perhaps, for some general cryptic remarks made by the Head of the Political Administration of the Red Army, Mekhlis, and by Blyukher's successor. The former told the party conference of the 'First Separate Army',* in September 1938, that the plotters among the party members of the Far Eastern Army had been 'smashed and destroyed'. Shtern was a little more explicit when, in addressing the Eighteenth Party Congress, he referred to 'traitors, spies and monsters' who had infiltrated into responsible positions in the Far Eastern armies.

The disgrace of the Marshal was not a local event of the Soviet Far East, but one of national importance for Soviet Russia. Blyukher was a potential Russian Bonaparte, more dangerous to Stalin than even

* The 'First Separate Army' ('Pervaya Otdelnaya Krasnoznamyonnaya Armiya') was a new name for the purged OKDVA, the term 'Far Eastern Front' being used for a few weeks only.

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Marshal Tukhachevsky. The latter was primarily a soldier, but Blyukher 701
was both soldier and political leader. Unlike Tukhachevsky, Blyukher was of proletarian origin – he had started life as a shop-assistant in St. Petersburg and had later become a metalworker – and his popularity with the Russian working class was secure. Unlike Tukhachevsky, Blyukher had suffered under the Czarist régime. He had joined the Bolshevik Party a whole year before the October Revolution, early enough to lay claim to the once so honourable title of 'Old Bolshevik'. Although only a private in the Czarist army in which Tukhachevsky had served as an officer, Blyukher emerged as one of the great military commanders of the young Soviet State during the Civil War. In 1918, by his remarkable expedition across the Ural mountains, he secured the victory of the Revolution on what was then the 'Eastern Front'. For this outstanding feat he was awarded the Order of the Red Banner. He was the first person to receive this decoration.[13]

Blyukher's association with the Soviet Far East, which became the main reason for his prominence, started in 1921. He commanded that heroic march to the Pacific Ocean which included such momentous events of the Russian Civil War as the storming of the heavily fortified white-guard stronghold, Volochayevka, the capture of Khabarovsk, and the final liquidation of Japanese intervention.

For Russia as a whole the elimination of Blyukher meant that Stalin's last potential competitor, a man who might have easily become more popular than he, had gone. For the Soviet Far East it meant the end of a historic period and it also resulted in a rewriting of its past history. Naturally, Blyukher's real historic feats remained unchanged, but the régime did its best to strike his name from history as it lives on in the minds of the people, particularly in the minds of the rising generation. It is difficult to write the history of the Soviet Far East up to 1938 without mentioning Blyukher, but Stalin's historians have achieved this task. Blyukher's name is now left out of all accounts of the Russian Civil War. The first edition of the *Large Soviet Encyclopedia*, in its volume, Number 6, which was published in 1930, described Blyukher as 'one of the outstanding personalities of the Red Army'. The second edition of the *Large Soviet Encyclopedia*, which was published after the Second World War, did not mention him at all.

THE TRIUMPH OF THE N.K.V.D.

The reorganization of the 'Special Far Eastern Army' and the disgrace 636
of its commander were followed by the abolition of the Far Eastern 656
Territory. It may be argued that this latter measure was not especially prompted by the peculiarities of the situation in the Far East. The Soviet Government had gradually abolished all the original large

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636 administrative units, such as, for instance, the West Siberian Territory,
656 the East Siberian Territory and the North Caucasus Territory. The Far Eastern Territory was, however, the last to be affected by these administrative reforms, and then only after the purges there had been completed. On October 20th, 1938, it was decreed that the Far Eastern Territory would cease to exist and that two new 'Territories' would take its place, the Khabarovsk Territory, which still included the bulk of the former F.E.T., and the Maritime Territory, with Vladivostok as the capital. After the war the administrative splitting up of the Soviet Far East was carried further. In the west, the Khabarovsk Territory lost the Amur Province (administrative centre: Blagoveshchensk) and, in the east, Sakhalin was removed from its jurisdiction and made a self-contained province.

625 To consolidate the position of the party in the two new 'Territories',
433 a position so badly shaken by the purges, the government saw it necessary to strengthen the powers of the N.K.V.D., particularly the control which the latter exercised over several vital branches of Soviet Far Eastern economy. The full extent of the N.K.V.D. rule in the Far East was disclosed by the Soviet Economic Plan for 1941, a secret document produced for inter-departmental use, but not intended for the Soviet public and still less for foreigners.* It showed that the People's Commissariat for Internal Affairs was a much more important organizer of certain industrial activities than the ministries nominally responsible for them. The plan revealed, for instance, that the N.K.V.D. controlled nearly 83 per cent of the coal output of the Khabarovsk Territory. Only 13 per cent of it was in the hands of the People's Commissariat for Coal (*Narkomugol*) and the remaining 4 per cent was split up between other ministries. In the field of timber production the N.K.V.D. did not hold the same monopoly. It provided 'only' one-third of the entire timber supply of the territory, slightly more than the quota allocated to the People's Commissariat for the Timber Industry (*Narkomles*). Another important sector of N.K.V.D. work was production of building material. Over one-fifth of the bricks produced in the Khabarovsk Territory in 1941 was to come from the Chief Administration of Corrective Labour Camps, one of the specialized agencies of the N.K.V.D. In the much smaller Maritime Territory the N.K.V.D. has little importance as an economic factor, except for the timber industry, where it tackled over 20 per cent of the whole production. But

* The full title of the document is 'Gosudarstvenny Plan Razvitiya Narodnogo Khozyaistva S.S.S.R. na 1941 god (Prilozheniya k Postanovleniyu S.N.K. S.S.S.R. i TsK VKP (b) Nr.' 127 ot 17 Yanvarya 1941 g.) – State Plan for the Development of the National Economy of the U.S.S.R. for 1941 (Appendices to the Decree of the Council of People's Commissars and of the Central Committee of the All-Union Communist Party (Bolsheviks), Nr 127 of January 17th, 1941.) The material on the economy of the Soviet Far East is contained in the appendices 371, 372 and 373, pp. 324–336.

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even where the N.K.V.D.-M.V.D. has no direct economic power it is the decisive political force, above all, in border areas like the Maritime Territory of the Soviet Far East.

There are indications, however, that the police ministry has encountered certain difficulties among the Far Eastern Russians during the war and post-war period. Conditions were certainly favourable to a re-emergence of that Far Eastern regionalism which Soviet power has tried so hard to eliminate. The people of Vladivostok, in particular, must have felt once more that the natural destiny of their city was that of a window into the world. They saw the many American lend-lease shipments arriving in their harbour and were bound to draw certain conclusions about the desirability of international trade and Soviet-American co-operation. More than people in other parts of the Soviet Union must the Russian inhabitants of the Pacific coastal areas have resented the policy of rigid isolationism which the Soviet Government has pursued particularly since 1947.

This frame of mind of the 'Far Easterners' makes it understandable that the very existence of an American consulate in Vladivostok was a matter of concern to the Soviet Government. The building of the consulate was put under constant supervision and for long periods it was floodlit at night. In 1948, the Soviet Government used a flimsy pretext to demand from the United States that they should withdraw their consular personnel from the Pacific port. The measure had little importance for the Americans as the activities of the four American consular officials were extremely limited, but it had a certain symbolic significance. The closing down of the consulate was a way of telling the people of Vladivostok that their hopes of their city becoming a link between Russia and the West were once more doomed. Some years later the charge was made that the consulate had been the centre of a spy-ring. This accusation was first put forward in the short story *In a Seaside Town* ('V Primorskom Gorode') which the popular Soviet illustrated *Ogonyok* published in 1950. In the daily press the 'plot' was mentioned for the first time on February 8th, 1953, when *Izvestiya* wrote: 'In 1947, the organs of the state security service liquidated a spy-nest organized by the assistant naval attaché at the American consulate general of Vladivostok, Richard'. *Izvestiya* produced no further details nor any evidence to support its disclosure which it simply quoted from a book *The Secret Weapon of the Doomed*. This latter work had come out under the auspices of the Komsomol organization. The absurdity of the Vladivostok spy story does not preclude the possibility that many Russian Far Easterners in the late 'forties' and early 'fifties' were persecuted for pro-Western sentiments just as others had been victimized for alleged pro-Japanese leanings in the late 'thirties.'

The particular sensitiveness which the Soviet authorities have shown

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The particular sensitiveness which the Soviet authorities have shown
208 with regard to the Far Eastern Russians since the Second World War can also be illustrated by another fact. Soviet jamming of Western broadcasts started in the Far Eastern territories of the Soviet Union several months before it came into operation in other parts of Russia.

II. THE PROBLEM OF COLONIZATION

THE HISTORICAL BACKGROUND

167 The great decisive problem which had confronted both Czarist and Russian authorities in the Far East was that of the colonization of the territory. Under the Czarist régime Russian colonization could be roughly subdivided into three periods. The first ran from the annexation of the Amur and Pacific coastal regions in 1858–60 to 1883, the second from 1883 to about 1900, and the third from 1900 until the First World War.

Until 1883, the only way of reaching the Far East from European Russia was to cross the whole of Siberia on horseback, and this meant two to four years' travel. The formidable journey, under very primitive conditions, resulted in complete physical exhaustion which, in a number of cases, compelled the prospective Amur colonists to abandon their original aim and settle down somewhere in Siberia. Those who eventually reached the end of their journey were appallingly weak from starvation, hardship, and the diseases which they had contracted during the journey. To make things worse there was no proper settlers' organization to help them when they arrived. It is not surprising, therefore, that in such circumstances the colonization of the Russian Far East made little progress, and the yearly average number of newcomers in these parts did not exceed 1,000.

The year 1883 saw the opening of the sea route for the use of prospective settlers. Despite the fact that the sea route reduced the journey to a few weeks only, it never became really popular with Russian and Ukrainian colonists, since travelling by sea was alien to their mentality. Nevertheless, several thousands of would-be settlers let themselves be persuaded to board ships in Odessa for Vladivostok, where they received a much better welcome than those who had arrived earlier by the land route; they were fed and housed, given medical attention and provided with farming equipment.

It was only after 1900, with the opening of direct rail communication between Russia and the Far East, that Russian colonization did enter a more active phase. In the initial stage the Trans-Siberian railway line cut the duration of the journey to approximately thirty days. While the first Russian colonists in the Far East had come chiefly from the overpopulated gubernii (provinces) of Kiev, Chernigov and Poltava, the

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inhabitants of over forty-five European Russian gubernii participated in the colonization after the hardships of a long and complicated journey had been alleviated.[14] Migration to the Far East assumed a real mass character, particularly after the Russo-Japanese War, when numbers reached the record height of 76,637 in 1907.

The boom of the migration to the Far East in the last years of the Czarist régime made little difference to the magnitude of the task which the Soviet power had to face. This can be gathered from the fact that in 1926 the total number of inhabitants in the F.E.T. was still below the two million mark, and this included both Asiatics and Europeans. The number of Europeans alone did not exceed 1,600,000, including 1,531,000 representatives of the three main Slavonic peoples of the U.S.S.R. – Great Russians, Ukrainians* and Byelorussians. Thus, the Europeans of the Russian Far East were an insignificant factor compared with the masses of China and Japan living at Russia's doorstep. We shall see now by what means the Soviet Government tried to change the situation and what success it achieved in its endeavours.

COLONIZATION BY CONVICTS

Colonization by convicts is neither a Soviet nor a Russian invention. It has been practised elsewhere, for instance, in Australia, but there it came to an end in 1838. In Russia, more particularly in the Russian Far East, colonization by convicts is not only flourishing at the present time, but it may not even have reached its maximum expansion. Certain remote Soviet Far Eastern territories have absorbed especially high numbers of forced labourers. Consequently, the colonization of the vast area which forms the hinterland of the Okhotsk Sea is almost exclusively due to convicts working under the supervision of the M.V.D. (previously N.K.V.D.).

* According to the 1926 census the Ukrainians in the Far Eastern Territory numbered 315,000 and the Byelorussians 41,000. There are particularly important Ukrainian settlements near the town of Blagoveshchensk, as well as at several points along the railway line running from Khabarovsk to Vladivostok, parallel to the Chinese-Soviet border. The Soviet régime provided Ukrainian language schools for the Ukrainian settlers and founded as many as seventeen Ukrainian 'National Districts' in various parts of the F.E.T.

Ukrainian nationalists refer to the entire Soviet Pacific coastal area as the 'Green Wedge' (Zeleny Klin) as distinct from the 'Grey Wedge', which is the Ukrainian settlers' area in Northern Kirghizistan and Southern Kazakhstan. These nationalists are inclined to consider the Soviet Pacific region a Ukrainian and not a Russian national possession. Indeed, the *Ukrainian Encyclopedia*, published by Ukrainian scholars of Eastern Galicia during the inter-war period, described the 'Green Wedge' as a 'Ukrainian colony on the Pacific Ocean'. The *Encyclopedia* estimated that 30 per cent of the population of the 'Green Wedge' were Ukrainians, against 52 per cent 'Muscovites', i.e., Great Russians. (*Ukrainska Zagalna Entsiklopedia*. Lviv-Stanislaviv-Kolomiya, 1935, vol. ii, pp. 42–3.) The importance of the 'Ukrainian problem' in the Soviet Far East must not, however, be overestimated. The dividing line in the Far East does not run between the various groups of European colonists but between Europeans and Asiatics.

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316 655 (previously N.K.V.D.). Under the general direction of the latter a powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

635 625 The activities of the Dalstroy are many-sided. The 'Mining Administration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of [461] 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

167 361 The colonization activities of Dalstroy have changed the character of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

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167 361 estimated at 50,000–70,000 inhabitants. Official Soviet sources, while glossing over the strange origin of Magadan, have described it as an important cultural centre, including several houses of culture, dozens of clubs, cinemas, libraries, and two theatres, one for drama, the other for musical comedy. Former prisoners who passed through Magadan have asserted that the actors of the drama theatre were convicts, but Soviet sources of more recent date declare that they were recruited from Moscow drama schools. By December 1952, Magadan had grown large enough to deserve administrative promotion. A decree of the Presidium of the Supreme Soviet transformed it from a district town into a provincial town.[16]

Magadan is the largest locality which owes its existence to Dalstroy, but there are others further inland. One of them is Atka – a name which, at the first glance, seems to have an exotic Asiatic flavour, but is in reality an expression of the unromantic technological mind of Soviet Russia. It is simply an abbreviation of 'Avtotraktornaya Kolonna' (Motor Tractor Column), a tribute to the pioneer role of motorized transport in a territory without a railway. Even in 1946 Atka had large garages and automobile repair works where work never stopped, 'not even for a single minute'. Moreover, Atka produces electrical equipment for the purposes of Dalstroy.[17]

MILITARY COLONIZATION

167 729 241 Another interesting and unusual form of colonization introduced in the Soviet Far East is what might be described as 'military colonization'. Discharged soldiers of the Red Army, artillery and cavalrymen, infantry and members of the signal corps, as well as sailors of the Red Fleet, settled down with their families in the fertile border regions on the Ussuri River. These military colonists formed a kind of peasant militia ready to be called up at any time for the defence of the 'socialist fatherland'. The first 'Red Army' and 'Red Fleet' collective farms were formed in 1931. They soon became the pride of the entire Soviet Far East and the head of the administration of the F.E.T., Krutov, described them as a shining example for the entire Far Eastern peasantry.

Not all demobilized soldiers became agriculturists; some of them remained in the Far East as lumbermen and fishermen and many also worked on the Far Eastern railways, as has already been mentioned. At the beginning of 1938, 5,000 demobilized Red Army men were accepted into the service of railways. They were all provided with houses and small plots, and each of them received a government grant for the purchase of a cow.[18]

167 241 This last point is particularly characteristic of Soviet colonization policy in the Far East. To increase its defence potential in the Far

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167 241 Eastern border areas the government made concessions even in the economic sphere. In European Russia only collective farmers were at that time allowed to own a cow as their own personal possession, never industrial or transport workers.

KOMSOMOL COLONIZATION

167 445 583 The military colonization largely overlaps with another special form of colonization in the Soviet Far East, which is carried out with the help of the Communist Youth League, the Komsomol. The Youth League is the backbone of the Far Eastern units of the Soviet Army. Towards the end of the inter-war period 60 to 70 per cent of the soldiers in the Far East were Komsomol members. Hence among the demobilized soldiers, too, there must have been a good deal of 'Komsomol spirit'. The Komsomol influence in the Far East is, however, by no means confined to the army. The entire Soviet Far East has been described as a 'Komsomol Territory'. This is true both in the figurative and in the literal sense. The Soviet Far East is 'komsomolsky' because it is a young pioneer country, but the Komsomol, the Communist Youth League, is also directly connected with the Soviet Far East as one of the principal promoters of its colonization.

Many Communist Youth League members went to the Far East as individuals out of a spirit of adventure and also out of a feeling of patriotic duty. The Komsomol, as an organization, was responsible for two big spectacular actions. One was the foundation of the town Komsomolsk-on-Amur, the other was the movement initiated by Madame Khetagurova.

The history of Komsomolsk goes back to the spring of 1932 when the Central Committee of the Communist Youth League chartered two steamers, *Kolumb* and *Komintern*, which sailed with 400 young people, including a number of Civil War orphans, to the village of Permskoe on the Lower Amur. (The village had been founded as early as 1858 by Russian peasant colonists hailing from the region of Perm in the eastern part of European Russia.) Even the first small party of Komsomol members outnumbered the local population of 160 inhabi- [361] tants. In the second half of 1932 many more young people arrived, and in December of the same year the All-Russian Executive Committee published a decree which transformed Permskoe into the town of Komsomolsk. The decree read well in the Moscow newspapers, but to the young builders of Komsomolsk it must have appeared utterly unrealistic. At the time when the decree was published they were in a state of despair. The building of the town had had to be interrupted in view of the harshness of the Russian Far Eastern winter, and the inexperience of the new settlers had resulted in great complications. During

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

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162 known Soviet writer Pavlenko has referred to this problem in one of his
167 novels in the following words, 'From the polar tundra down to Korea everybody dreams of women. Nowhere else do people get married as quickly as there. Widows do not exist in the Far East. Only the oldest women overcome by senility remain single'. There is a lot of truth in what Pavlenko said. The proportion of women in the population of the Far East diminishes the further one goes east. The 1926 census showed that for every 1,000 men there were 962 women in the area just east of Lake Baikal, 918 in the Amur region, 704 in the Pacific coastal region and 689 on Sakhalin island. This is an abnormal situation, though characteristic of the pioneer stage of colonization activities all over the world.

167 To make the balance between the two sexes more even, a movement
562 was created designed to bring young girls to the F.E.T. It was associated with the name of an ordinary Soviet citizen, a young woman of twenty-two years of age, Valentina Khetagurova-Zarubina. Khetagurova was the wife of a major serving with the 'Special Far Eastern Army'. Her claim to fame was a letter which she addressed to the girls of the Soviet Union. The letter was published on February 5th, 1937, and is an extremely interesting document.[28] Official inspiration had certainly a lot to do with it, but the letter nevertheless had a personal touch, and in some passages the Russian woman triumphed over the communist official. The needs of the Far East, Khetagurova said, were great. 'We need fitters and turners, teachers and draftswomen, typists and accountants – all to the same degree'. In the event of a war Khetagurova promised different kinds of jobs. Women would then be employed as nurses, radio operators and even as machine gunners. She appealed to the personal pride of would-be migrants to the Far East; 'We want only bold, determined people, not afraid of difficulties'. She described the Far East as an exotic dreamland 'where still a short time ago there were only deer, tigers and lions' and where 'wonderful work, wonderful people and a wonderful future' would meet the girls.

More important than all this was the assurance which Khetagurova gave, not expressly, but by implication, namely, that every girl would find a husband in the Far East and possibly even one holding commissioned rank in the army. She told the girls of Soviet Russia her own personal success story: 'In the autumn I made the acquaintance of Major Khetagurov. My life became fuller and brighter when I became married to him. . . .' The Russian girls could not be told more clearly why they should follow the example of Valentina Khetagurova.

The Khetagurova letter had considerable success. By the end of 1937 as many as 70,000 Soviet girls had registered with the authorities as volunteers for the Far East, and many actually went there. They were called 'Khetagurovki' – Khetagurova girls.

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THE 'NORMAL' COLONIZATION

So far only those forms of colonization in the Far East have been mentioned which might be described as typically 'Soviet', ranging from the terror exercised by the N.K.V.D. to the exuberant enthusiasm of the Komsomol.* In addition, the Soviet Government has continued the normal, ordinary colonization which went on in Czarist times. The Soviet Government has provided a number of genuine incentives to make it worth while for Russian peasants and workers to go to the Pacific coastal areas.

The first important special measure for the encouragement of voluntary migration to the Far East was a decree which the government issued on December 11th, 1933. It freed the collective farmers of the Far Eastern Territory for the duration of ten years from all compulsory grain and rice deliveries to the state. It reduced by 50 per cent the compulsory deliveries of meat, vegetables, milk and wool, and in certain distant areas such as Sakhalin and Kamchatka these deliveries were abolished altogether. To the workers and technicians of the Far East the decree of December 11th, 1933, brought higher wages and salaries. The personnel of the Far Eastern mining industry received an automatic rise of 30 per cent, and all other categories of workers and technicians one of 20 per cent. On the same occasion the pay of soldiers of the Special Far Eastern Army was increased by 50 per cent, and that of officers by 20 per cent.

It seems that these 'Stalin Privileges' as they were called were not quite sufficient to attract settlers to the Far East. Another decree was, therefore, published on November 17th, 1937, which aimed chiefly at the encouragement of agricultural colonization. On the strength of that decree, groups of collective farmers going to the Far East were to be exempt from taxation for six years and to obtain state credits for fifteen years. The decree further pledged the state to pay 50 per cent of the costs of all buildings erected by the colonists.

So much for the legislation passed for the encouragement of colonization in the Far East. In practice, things proceeded very often on lines that are reminiscent of Gogol's *Dead Souls*. Each Soviet state authority or building organization in need of manpower for the Far East had its own small recruiting office in Moscow. Special recruiting agents were employed who were paid a fixed sum for every person whom they persuaded to take up work at a Far Eastern building site or factory. The usual tariff was thirty roubles per person, but occasionally the fee was

* Another special form of Soviet colonization in the Far East was the mobilization of Jews for the settlement of Birobidzhan. The author has described the failure of this experiment in *Russia and her Colonies* (London, George Philip and Son, Ltd., pp. 173–8).

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167 656 higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

167 Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

162 361 The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

369 As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

185 369 433 The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

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demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[35] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[36] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[37] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

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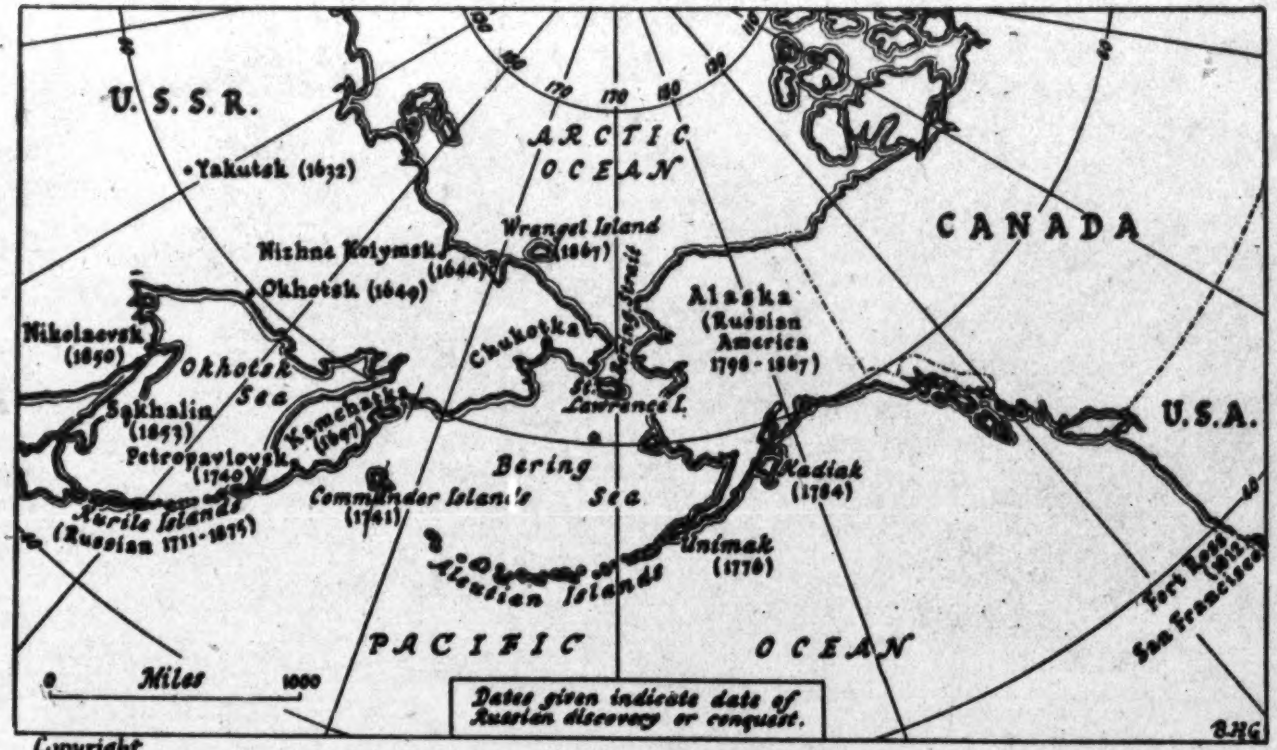
161 167 A decree of January 9th, 1950, giving a new list of constituencies for the Supreme Soviet elections established four new constituencies in the Far East. The constituency of Khabarovsk was divided into a town and a country constituency, another new constituency was formed around the Okhotsk Sea and two more constituencies were created on Sakhalin. The total population of the Soviet Far East would accordingly have been, in 1950, in the neighbourhood of 4,200,000. It is, however, unlikely that this figure was really reached. The population of each of the three Sakhalin constituencies, in particular, may be considerably below the 300,000 mark.

III. THE SOVIET FAR EASTERN MYSTIQUE

186 208 The Soviet régime worked for the strengthening of the Russian Far East not only by mobilizing manpower for its colonization, but also by building up a Far Eastern 'mystique', a nationalistic ideology which flattered national pride to the utmost degree. After the end of the Second World War the Soviet Government, with the help of a large army of historians, writers and poets, promoted a cult of Russian heroes of the Pacific. The object of the new propaganda campaign was to show that Russians had played an outstanding part in the discovery of the Pacific and that, by their past records, they were entitled to much more influence in decisions concerning Pacific affairs than the 'imperialist powers' were ready to grant them. The campaign was also intended to prove that Czarist Russia had failed to grasp the opportunities offered to her in the North-West Pacific and that the Soviet Union defended energetically those national Russian interests in the Far East which the old régime had neglected.

RUSSIAN COLUMBUSES

186 208 159 To proceed in a strict chronological order the first 'Russian hero of the Pacific' to be mentioned is Semen Dezhnev. Soviet propaganda popularized him particularly in connection with the tercentenary in 1948 of the discovery of the Behring Strait, which separates Asia from America. The Danish explorer, Vitus Behring, after whom the strait is called, may only have rediscovered it one hundred years after Dezhnev had sailed around the 'nose of Asia', the north-eastern tip of Siberia. As late as the nineteenth century, some outstanding Russian scholars still doubted whether Dezhnev could really be credited with this daring feat. Soviet writers, however, are quite positive about Dezhnev's pioneer role. In 1945 the Chief Administration of the Northern Sea Route issued a popular book on Dezhnev, which waived aside all doubts as to Dezhnev's voyage, and described Dezhnev himself as 'a glorious representative of the all-enduring Russian people'.[28]



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2. THE RUSSIAN EMPIRE IN THE NORTH PACIFIC

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186 208 159 The next 'Soviet hero' operated on the other side of the Behring Strait, in what, until 1867, was called 'Russian America'. He was the Russian merchant, Grigory Ivanovich Shelikhov, who, in 1784, founded the first permanent Russian settlements in Alaska. Shelikhov's contemporary, the great poet Derzhavin, called him the 'Russian Columbus'. This description, 'Russian Columbus', plays a great part in Soviet propaganda. Because of a feeling of inferiority, *vis-à-vis* the Western World, the Soviet Union has claimed a large number of inventions and geographical discoveries for the Russians, including the discovery of America. Columbus discovered only the American East coast. North-West America was a Russian discovery for which the credit goes in the first place to Shelikhov. It is obvious that the Russians of the Soviet Far East and of Eastern Siberia are most easily attracted by the idea of a 'Russian Columbus'. The Mayor of Irkutsk and the head of the Irkutsk provincial administration have been in the forefront of those who have advocated a systematic publicity campaign for extolling Shelikhov's memory. These two, together with seven other distinguished Soviet citizens, demanded in a letter to the Moscow *Literary Gazette* in October 1950, that Shelikhov should be honoured lavishly on the 155th anniversary of his birthday. In the centre of Irkutsk a Shelikhov monument ought to be erected, they recommended. The Ministry for Cinematography was to produce a film on the 'Russian Columbus', the All-Union Society for the Dissemination of Scientific and Political Knowledge to organize lectures throughout the country about his life and deeds, and the State Publishing House for Geographical Literature was to publish his biography.[39] Since then many of these demands have probably been carried out.

Shelikhov's epithet, 'Russian Columbus', has frequently been challenged. Russian historians of the nineteenth and twentieth centuries considered Shelikhov a braggart who greatly exaggerated his Alaskan exploits, and in particular, the number of Alaskan natives converted to Christianity, so as to get larger subsidies for his trading firm. This poor view of Shelikhov was taken by the pre-revolutionary *Russian Encyclopedia*, and the first edition of the *Soviet Encyclopedia* has not corrected it. According to the latter, Shelikhov was just a 'representative of merchant capitalism' not worthy of major attention. Nevertheless, Shelikhov was a man of vision. He conceived the bold plan of a Russian Empire in the North-West Pacific which would have its granary in California and its naval base in the Hawaiian Islands. Shelikhov also wanted to encourage trade relations with China, Japan and India, and he dreamt of voyages to the Philippines, and even to the North Pole.

Shelikhov's successor, Aleksandr Andreevich Baranov, who started a more systematic exploitation of Russian America by founding the 'Russian-American Company', has also his place in the Soviet pantheon.

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Baranov is venerated as a 'self-sacrificing patriot', and a manual for Soviet teachers gives the following appraisal of him: 'Baranov, this outstanding personality, during twenty-eight years kept the administration of Russian America firmly in his hands. Thanks to his personal courage and keen intelligence he opened up and explored its vast spaces. In a hard struggle with privations, the hostility of militant tribes and the mean intrigues of foreign merchants, he established Russian rule over the huge territories of Alaska and Northern California'.[20] Baranov has also become the hero of an historical novel. The author of the novel, Ivan Kratt, described Baranov and his associates as modest and just people, without prejudice against natives, and loved by everybody with the exception of a few villains.[21]

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'RUSSIAN AMERICA'

Among Baranov's collaborators there is one whom the Soviet régime has particularly singled out for posthumous glorification, Ivan Kuskov. Until the beginning of 1948, Kuskov's name was unknown even to many well-educated Russians. The Soviet Government rescued it from oblivion by a propaganda campaign on a large scale, which started in Torma, a small town in the Northern Russian Province of Vologda. The town council of Torma met and decided to erect a monument to Kuskov. The importance of this gesture might have escaped the peoples of the Soviet Union had not the Russian Press explained and advertised it all over the country. Kuskov appeared as the man who, acting under Baranov's general orders, had extended Russian America from Alaska to California. It was he, who, in 1812, had hoisted the Russian flag at the entrance of San Francisco Bay and founded 'Fort Ross', the southernmost Russian-occupied point on the American continent.

Not only the biographies of people like Shelikhov, Baranov and Kuskov have been reinterpreted, but the entire history of 'Russian America'. Alaska is not a conquest of Russian Czarism and imperialism, but belongs to 'democratic Russia', to 'people's Russia'. 'The settlement of Alaska by Russians', said the *Literary Gazette*, 'bore a clearly expressed labouring and democratic character dissimilar to the trade-plundering colonization by the Anglo-Saxons, who recruited their agents from among tramps, adventurists and criminals'.[22] The same point is elaborated in greater detail in what is purported to be a popular scientific booklet on the history, geography and economic conditions of Alaska. There, it is said that the colonization of Alaska was progressive because most of the Russian settlers were peasants, eager to shake off the arbitrary rule of the estate owners. Many people went to Alaska because they found the oppressive atmosphere of the Czarist régime unbearable. Others were sent there because of their political con-

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victions. Not only was the colonization of Alaska itself 'progressive' and 'democratic', the management of the Russian-American Company also was. One of its chief executives, K. F. Ryleev, was executed for his part in the December rising of 1825, and there were other prominent 'Decembrists' among the officials of the Company.[33]

Soviet propaganda has tried to show that Baranov and Kuskov conducted a progressive policy towards the natives of North America, totally different from the Anglo-Saxon or Spanish policy towards Red Indians. This is untrue and has been contradicted by Russian sources themselves. A Russian naval officer, who visited Alaska at the time of Russian occupation, has given the following eloquent description of Baranov's policy towards Eskimos and Aleuts: 'Woe to those who resisted him. He destroyed them mercilessly, deported them to uninhabited islands, deprived them of all means of contact with each other, and mixed people of various tribes so that there could be no malicious conspiracy against the Russians. He was feared by the savages, they considered him as the scourge of heaven. Since they had no chance to revolt they were forced to become his slaves and to forget all about their previous freedom'.[34] As a matter of fact, the Aleuts revolted against Russian rule, as the Russian historian, Shashkov, pointed out in his book on the Russian-American Company, and these revolts led to the extermination of a large part of 'this restless people'. How many Aleuts have perished altogether in the years of Russian rule it is impossible to say. According to the official data of the Russian-American Company there were 8,405 Aleuts in Alaska in 1824, but only 4,363 were recorded in 1859. It would be true to say, therefore, that Russian colonization of Alaska was, from the humanitarian point of view, by no means better than, say, British colonization of Australia in its initial stage.

Nevertheless, Russian policy towards the native peoples of Russian America did have its brighter aspects. Those responsible for it, however, were not Shelikhov, Baranov and the other newly discovered national heroes of Soviet Russia, but people whom the Soviet régime is not very keen on publicizing, the Christian missionaries. It was they who founded the first schools in Alaska, educated a fair number of natives, and even translated religious books into the Aleut language. The most important Russian churchman working in Alaska was Ivan Veniaminov (1797–1879). He was the author of a grammar of the Aleutian language which was published in St. Petersburg in 1846. The 'apostle of Alaska', as the Russian historian, Zernov, calls him, became later, under the name of Innokentii, Metropolitan of Moscow.[35]

The scope of these Russian church activities was, however, very small and one cannot say that the end of Russian rule in Alaska, in 1867, meant in any way a major loss to the native peoples; but of course it was, historically speaking, a great loss for the Russian State. Soviet Russia was

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more conscious of this loss than Czarist Russia had ever been. In Soviet political literature published after the Second World War the abandonment of the Russian outposts in California in the 'forties' and the sale of Alaska to the United States appear not only as regrettable blunders, but almost as acts of treason on the parts of the Czarist Government. 175

THE RUSSIAN PACIFIC

Russian traditions in the Pacific, as presented by Soviet propaganda, are by no means confined to Russian rule over Alaska and 'Fort Ross'. Quite a number of Russian naval expeditions took place throughout the nineteenth century in various parts of the Pacific Ocean. The public, and particularly Soviet youth, has been acquainted with them since 1945 in various ways. Stories about these expeditions have been written anew, in the form of historical novels or of straightforward descriptions, with the obvious object of stimulating national pride. 186 208

From this patriotic Soviet Russian literature centring on the Pacific one can learn a great deal – for instance, that the Russians discovered as many as 400 small Pacific islands, more particularly those belonging to the Paumotu Archipelago in the South-East Pacific, and some of the Marshall Islands. All these islands had been named after Russian generals in the war against Napoleon, and other famous Russian historical figures. Some of the Russian names still persist. Thus the, Lisiansky Island, a possession of the U.S.A., east of Midway Island, bears the name of a well-known Russian seafarer, and east of Samoa there still exists a Suvorov Island belonging to Britain. Also, the big island of New Guinea has important Russian associations. Russians are not credited with its discovery, it is true, but it was a Russian scholar to whom was due the first detailed description of the Papuan people. The Russian explorer, Miklukho-Maklay (1846–88), spent some time with the Papuans. The result of his observations was included in his diaries, which were not published until the Soviet régime came to power. As the Russian geographer, L. S. Berg, puts it, Miklukho-Maklay died before he succeeded in writing his fundamental scholarly works, but, even so, he is highly honoured in the Soviet Union. After all, he was the first Russian to demand that Russia should have a colony in the Pacific.[36] The Institute of Ethnography of the Academy of Sciences has been called after him and a play 'White Friend' has been produced in which he is the central figure. He appears there as the 'champion of black and coloured peoples enslaved by the colonizers of the West'.[37] 186 203 103

'NEVELSKOY'S IMMORTAL FEAT'

For Soviet patriotic ideology one historic personality is more important 186 208 159

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than all those mentioned so far, Admiral Gennady Ivanovich Nevelskoy (1813–76). The entire modern Russian Far Eastern policy goes back to his geographical discoveries. They resulted in the Russian annexation of the entire Lower Amur region up to the Ussuri confluence, as well as in the Russian seizure of Sakhalin. Until Nevelskoy's expedition, the Amur was not recognized as a 'useful' river and a channel of Russian expansion, nor was it known that Sakhalin was an island and not a peninsula. Nevelskoy, who had sailed from Kronstadt across the Atlantic and the Pacific, on August 13th, 1850, hoisted the Russian flag at the point of the Amur estuary which later became known as the town Nikolayevsk Amursky. Hence, the Amur region became the only part of Russia which was annexed by a naval expedition. Nevelskoy's 'immortal feat' enabled the Russian Empire to concentrate in its Far Eastern policy on areas close to the Chinese border, instead of using up its efforts in the distant Kamchatka or even Alaska. On the one-hundredth anniversary of Nevelskoy's appearance in the Amur estuary, the Soviet régime expressed its appreciation of the courageous seafarer in no unmistakable terms. A monument was erected in his honour in the town of Nikolayevsk and a number of popular books were published on the occasion. The Publishing House of the Central Committee of the Communist Youth League, 'Molodaya Gvardiya', brought out an historical novel largely dealing with Nevelskoy, and the State Publishing House for Cultural and Educational Literature produced a biography of the admiral.[38]

PORT ARTHUR

The gallery of heroes of the Russian Far East would be incomplete without mentioning the defenders of the Russian fortress Port Arthur during the Russo-Japanese War. When Port Arthur fell, Lenin wrote that the Russian proletariat had every reason to rejoice at 'progressive and advanced Asia inflicting an irreparable blow on backward and reactionary Europe'. When looking back on the defence and doom of Port Arthur, Stalin's Russia, however, takes no guidance from Lenin, but from the son of a Czarist officer, Stepanov, who, in 1905, belonged to the garrison of the besieged fortress. This man published, in 1944, an historical novel on Port Arthur which earned highest praise in the most authoritative Soviet circles. The book, which also served as the basis of a play, was, in the first place, a tribute to two great Russian patriots, Admiral Makarov, Commander of the Russian Pacific fleet and General Kondratenko, the main embodiment of the spirit of resistance in Port Arthur. Stepanov did not consider that the defence of Russia's naval base in the Pacific was merely an imperialistic affair. For him there existed the most intimate link between Port Arthur and the entire Russian people. This he expressed by letting General Kondratenko

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make the following appeal to his soldiers: 'Behind us has been left but a narrow strip of Russian land with the town of Port Arthur. *This is our Russian town*: for its construction we have spent millions of our national income and invested a great amount of work. You yourselves have worked to build up the fortifications and batteries. And besides, in Port Arthur is our Fleet. We have to defend stubbornly our positions. The whole fatherland is following the course of the war and the defence of Port Arthur with breathless attention. Let us give all our forces, and if necessary, our lives in order to uphold in dignity the glory of the Russian arms in the Far East'. The book from which these lines are quoted was an ideological preparation for the re-establishment, in 1945, of a Russian naval base in Port Arthur, 'the town of Russian glory', as it is usually referred to.

SERGEY LAZO

The Soviet régime itself has not been able to make any substantial addition to the impressive gallery of heroes of the Russian Far East from Dezhnev to Admiral Makarov. Such 'heroes' as there emerged under Soviet rule, Marshal Blyukher in particular, were liquidated by the Cheka-G.P.U.-N.K.V.D. There is only one important exception to this rule the guerilla leader of the Civil War in the Far East – Sergey Lazo. Lazo was an officer of the Czarist army who went over to the revolutionary camp and joined the Bolshevik Party in the middle of 1918. He fought courageously against the White Guards and the Japanese in the Pacific coastal areas. In 1920 the latter burnt him alive in Vladivostok when he was only twenty-eight years old.

The way in which Lazo died predestined him to become not only a hero of the Soviet Far East, but also a symbol of Russian resistance to Japanese militarism and imperialism. Whenever the name of Lazo was mentioned – in newspaper articles and history books, in songs and in plays – it was meant as a challenge to Japan. But as history in the Soviet Union is always rewritten and reinterpreted in accordance with the propaganda interests of the moment, the personality of Lazo has undergone a revaluation. After the Second World War he became an anti-American figure as well as being an anti-Japanese one. According to an up-to-date version of Lazo's biography, the responsibility for his death lay jointly with the Japanese and the Americans. He was killed 'with the knowledge and agreement' of the American interventionists.[39] A book which prominently featured Lazo's part in the political and military events that took place in the Russian Far East in 1918, N. Kolbin's *Partisans* (*Partizany*), was rewritten with the express purpose of denouncing American intervention. The first edition of the book, which the Far Eastern state publishing house 'Dalgiz' brought out in

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1948, had only been anti-Japanese. In response to criticism in the official press the author produced, in 1951, a second edition of the same book into which a number of anti-American passages had been inserted.[40]

The interpretation of the personality of Lazo underwent a change in another direction also. Originally, Lazo appeared in Soviet propaganda as an international communist fighting for the victory of the World Revolution in the Far East. As time went on this international aspect was pushed into the background, and Lazo was transformed into a patriotic Russian, although, being a Moldavian of Swiss extraction, he had not a drop of Russian blood in his veins.[41] The favourite quotation which Soviet propagandists of the later period picked out of Lazo's statements reflects indeed a most patriotic frame of mind: 'We shall fight with our lives for the homeland against foreign invaders. For this Russian land on which I am standing now we shall die and shall not give it up to anyone'.[42] It must be admitted that the Russian patriot, Lazo, appeals much more than the communist guerilla leader. A man like Lazo would have become a national hero anywhere in the world, for a person who is killed by foreign invaders under dramatic circumstances always occupies an honourable place in the history of his nation.

These few examples may suffice to characterize the new Pacific 'mystique' which the Soviet régime has created. The whole Russian people is to be indoctrinated with the new Pacific ideology, but in the first place, this ideology is intended as a moral equipment for the Russian settlers on the Pacific coast. They are to be made more sure of themselves, and more ready to overcome difficulties by instilling into them the proud feeling that they are the successors of Dezhnev and Shelikhov, of Kuskov and Nevelskoy, and also, of course, of Sergey Lazo.

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II

THE POLICY OF THE WHITE SOVIET FAR EAST

167 The encouragement of European colonization is the positive side of
563 Soviet policy in the Far East. Theoretically, this European colonization had no exclusive character; it could be supplemented by an Asiatic colonization. Indeed, both the Czarist Government and the Soviet régime, in its initial stage, admitted Asiatic immigrants to the Russian Far East, and made use of them. In the latter part of the 'thirties', this policy was reversed. The Soviet Government ceased to be interested in mere colonization of the Russian Far East; it wanted European colonization only. However eager communist Russia might be to assist the victory of communism in China, Korea and Japan, she would not like to see her Chinese, Korean and Japanese friends appearing as worker and peasant colonists in the Pacific coastal areas of the U.S.S.R.

Soviet policy in relation to Chinese, Korean and Japanese immigrants has become very similar in substance to the 'White Australia policy', or, as it is now called less provocatively, 'immigration restrictive policy'.* It may be argued that the non-admission of permanent Asiatic settlers implies no particular bias against Asiatics on the grounds that the territory of the Soviet Union has been sealed off against immigrants from non-Soviet European territories as well. This is certainly true, but in the case of the Asiatics the Soviet Government went a step further. It made the policy of the White Soviet Far East retroactive and eliminated those groups of immigrants who had settled there at a time when Russian and Soviet policy had been less narrow-minded.

I. THE 'RUSSIAN' KOREANS

UNDER THE CZARIST RÉGIME

167 A Korean problem has existed in Russia ever since Russian frontier
175 guards appeared on the Korean frontier. The Korean immigration into

* The Communist Party is the only Australian party which fights against the White Australia policy. The official pamphlet of the Australian communists, 'Australia's Part in the World Revolution', which was issued in 1930, stated: 'The White Australia policy is a capitalist measure for stirring up racial antagonism between the workers, and preparing for imperialist and colonial wars.'

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Russia started in 1861, the same year in which the first Russians settled down in the area of the Bay of Poset. As the first Korean colonists in the Russian Far East received good treatment, more and more Koreans crossed the border. The Korean authorities viewed this migration with some uneasiness and put every possible obstacle into the way of people who wanted to leave the country. Would-be emigrants were frequently killed, or robbed of all their belongings. Nevertheless, Korean emigration to Russia continued despite all difficulties. By 1868 four large Korean villages existed in Russian territory. The total number of Koreans in the Ussuri region then exceeded 1,800, whilst the Russian peasant settlers and Cossacks in the same area numbered 6,200.

From the Russian point of view the Korean immigration was all the more valuable because the Korean peasant settlers showed great willingness to assimilate themselves, to accept the Russian language and the Russian Orthodox faith. Even in the very early stage of the immigration quite a number of the 'Russian Koreans' became Christians. The famous Russian traveller, Przhevalsky, who in the years 1867–69 made a journey to the Ussuri region, gave a characteristic example of the speedy process of assimilation undergone by the new Korean subjects of the Czars. Przhevalsky mentioned the case of the headman of the village Tyzen-Khe (Ryazanovka), the largest of the first four Korean settlements in Russia. This headman had not only become a Christian; he had also acquired some knowledge of Russian, was clad in the Russian peasant fashion, and had abandoned his Korean name, calling himself Peter Semyonov after his godfather, a Russian officer.[1]

Przhevalsky, whom the Soviet régime still considers as a great authority on the Russian Far East, viewed the progress of Korean immigration with mixed feelings. He was the first Russian to see that the immigration, while helping to open up the new Pacific territories, might involve certain dangers. He openly declared that the settlement of Koreans so near the border was no minor mistake and he suggested that the Koreans should be settled along the middle reaches of the Amur, a measure which in Przhevalsky's view, would facilitate their russification. Przhevalsky's warning was not entirely disregarded by the authorities. A new big party of Korean immigrants which reached Russia in 1871 was not used for the colonization of the Russian-Korean border area but directed, instead, to a point 217 miles west of Khabarovsk where its members founded the village of Blagoslovennoye 'the Blessed'. The village was frequently mentioned as a prosperous, well administered community. Thirty years after the foundation of the village, the official Guide of the Great Siberian Railway stressed that it made a very good impression and that the love of work and order of its inhabitants was visible in the way in which they built their houses and tilled their fields.[2] Under the Soviet

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167 177 régime Blagoslovennoye was incorporated into the Jewish Autonomous Province.*

Despite the successful experiment conducted in Blagoslovennoye the bulk of the Korean immigrants continued to settle down near the Korean border in the region of Vladivostok. Until the beginning of the twentieth century this Korean immigration was prompted mainly by economic reasons, but the Japanese occupation of Korea provided new political [162] incentives for the trek into the Russian Far East. The number of Koreans in the Russian Pacific coastal areas, which had reached 23,000 in 1898, went up to 46,000 in 1907, and to 52,000 in 1910. In the First World War the 'Russian Koreans' proved themselves loyal subjects of the Czars. Four thousand of them served in the Russian Army, including one hundred and fifty as officers.

DURING AND AFTER THE CIVIL WAR

186 668 641 The February Revolution of 1917 led to a great upsurge of social and political activities among the Korean population of the Russian Far East. Korean societies and peasant leagues were founded, and in May 1917 the First Congress of Korean Revolutionary Organizations was held in the town Nikolsk-Ussuriisky (now 'Voroshilov'). The large majority of the delegates supported the Russian Provisional Government, to which a telegram of greetings was sent. The Congress took a stand against russification, demanded a Korean seat in the future Russian Constituent Assembly, and advocated certain improvements for the existing Korean schools. The latter demands were made by Korean teachers, who played a leading part in the Congress and in the Korean National Union, the representative body of the Russian Koreans. Even after the October Revolution, the spokesmen of the Korean people in Russia showed little enthusiasm for the Bolshevik cause, and continued to support the party of the Socialist Revolutionaries. The Second Congress of Korean Revolutionary Organizations, which was held in May 1918, proclaimed the neutrality of the Koreans in the Russian Civil War. In reality the Central Executive Committee of the Korean National Union (renamed, early in 1919, All-Korean National Council) was anything but neutral. It took up a 'counter-revolutionary' attitude, boycotting the Soviets, but participating in the work of the regular local government organs, the 'zemstva'.

* Until 1930 there were still more Koreans than Jews in what later became the Jewish Autonomous Province. The territory then included 3,200 Koreans and 2,700 Jews. The Koreans had four and the Jews three 'National Village Soviets'. The other ethnic groups then represented in Birobidzhan were Russians (27,350), Ukrainians (3,000), Far Eastern natives (700) and Chinese (500). The second edition of the *Large Soviet Encyclopedia* published in 1952, however, mentions only Jews, Russians and Ukrainians as inhabitants of the Province.

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Throughout the whole period of Civil War and foreign intervention in the Far East the communists formed only a small minority among the 'Russian Koreans'. The Bolshevik Party tried to gain some influence among the Koreans by playing up the more recent immigrants, who had not yet been granted Russian nationality, against the old immigrants. Consequently, the Korean members of the communist guerilla detachments were recruited primarily from the new immigrants who expected from the Soviet régime improvements in their material and legal status.

The more communist rule consolidated in the Far East the less freely could the All-Korean National Council express its views. In September 1920, when it had moved from Nikolsk Ussuriisky to Blagoveshchensk, it issued a statement in favour of the Soviet Government which the Communist Party authorities themselves refused to take seriously. For them it was a hypocritical opportunistic document.[3]

The statement seems to have been the swan song of the All-Korean National Council. The organization was dissolved and a communist-directed 'Union of Koreans' came into existence with its headquarters in Moscow and branch organizations in Leningrad and other important Soviet cities. This organization, which was likewise disbanded after a few years' existence, appears to have been concerned only with the Korean diaspora in Russia proper. In the Soviet Far East the Communist Party and the Communist Youth League had the monopoly for the representation of Korean interests. During a short period there were even special Korean sections inside the Communist Party of the Soviet Far East, but they proved to be inexpedient and were dissolved in 1923, having existed for six months only. At the same time 750 Korean party members, out of a total of about 1,000 were expelled, presumably for nationalist leanings.[4]

Soon after the purge of 1923 both the Communist Party and the Communist Youth League recruited new members from the Korean minority. In Vladivostok, for instance, the Communist Youth League had, in 1927, 7,409 Russian and 5,885 Korean members.

There are no absolutely reliable data available as to the numerical strength of the Korean element in Soviet Russia after 1917. Many Koreans emigrated to Russia in the years of the revolutionary confusion in the hope that the Russian Far East would become more and more internationalized. According to the Ministry of Nationality Affairs of the Far Eastern Republic the Koreans numbered 300,000 in the buffer state, and were, after Russians and Ukrainians, its third largest ethnical group. In 1927 there were only 170,000 Koreans in the Soviet Union according to official data, but unofficially there were 'at least 250,000'.[5]

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LITTLE SOVIET KOREA

131 The large majority of the Koreans of the Soviet Far East remained concentrated in the Vladivostok area (okrug) where they formed, in 1926, about one quarter of the entire population. The largest Korean communities lived in the Suchansk district, to the east of Vladivostok, and in the area of Poset, to the west of Vladivostok, in the immediate neighbourhood of the Korean and Manchurian borders. Several dozens of Korean villages in that area were united into a 'Korean National District'.[4] Ninety-five per cent of the population of the District were Koreans. Their main occupations were rice-growing, fishing and timber cutting.

423 563 186 Relations between Russians and Koreans in the Vladivostok region left much to be desired under the Soviet régime. The collectivization of agriculture in particular led to considerable difficulties. When the first collective farms were founded in the Pacific coastal areas near Vladivostok, the local authorities gave privileged treatment to the Russian farmers at the expense of the Koreans. The Russian collective farms received more land and were better provided with agricultural machinery and even with credits. An article which the organ of the Soviet of Nationalities *Revolyutsiya i Natsionalnosti* published early in 1931 stated bluntly that this discrimination was prompted by 'great power chauvinism' on the part of the District Executive Committees ('Rayispolkomy') of the Vladivostok region as well as on the part of the regional agricultural authorities.

563 186 579 474 *Revolyutsiya i Natsionalnosti* illustrated this anti-Korean discrimination by the example of two new adjoining *kolkhozy*. The first was the Russian kolkhoz 'OKDVA', the second the Korean collective farm 'Tikhookeanets Revolyutsioner' ('The Revolutionary on the Pacific'). These two collective farms differed from each other not only in their ethnic composition but also in regard to the amount of land allotted to them. In the Russian kolkhoz, 'OKDVA', there was an average of 59 acres per household, against 20 acres per household in the Korean 'Revolutionary on the Pacific'. This state of inequality induced the Koreans to complain to the authorities about 'Russian chauvinism'. The complaint made things worse. It enraged the local Russians against their Korean neighbours. A number of violent clashes occurred between Russians and Koreans almost at the gates of Vladivostok. The organ of the Soviet of Nationalities asserted that the fault was with the Russians who had assaulted Korean collective farmers. The blame for the incidents could not be put on 'kulaks' and 'class enemies' as was done in similar circumstances in other parts of the Soviet Union. The Communist Youth League participated in beating up the Koreans. The latter aired their

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indignation against the outrages committed by Russian collective farmers by turning against the collective farm system itself. As an expression of protest Korean peasants took the initiative in disbanding a number of collective farms in the Vladivostok countryside.[7]

The worst aspect, from the point of view of the theory of Soviet nationalities policy, was that the local authorities in the Soviet Far East did not see the political implications of the Russian-Korean incidents but considered them as mere acts of 'hooliganism'. As the district and area (okrug) committees of the Party failed to remedy the situation, the Party leadership in Khabarovsk had to take things in hand. In a special meeting, held in the winter of 1930–31, the Communist Party Committee of the F.E.T. decided to take measures against 'Great Russian chauvinism' in the areas with a mixed Russian-Korean population, and it can be assumed that conditions improved after this intervention. Nevertheless, the events which marked the initial period of collectivization in the Vladivostok area constitute an essential part of the background, explaining those drastic measures which the Soviet Government took a few years later against the Koreans and other Asiatic minorities.

In the cultural field the Soviet régime advanced greatly the Korean minority in the Russian Far East. The Soviet Koreans were well provided with educational facilities which had been almost completely lacking under the Czarist régime. The number of Korean schools in the F.E.T. increased with every year and reached the figure of 300 in 1937, of which fifty-three were in the National District. The Korean minority owned three secondary schools, two technical colleges, two teachers' training colleges (including one in the Korean National District), and a Korean Pedagogical Institute in Vladivostok. The Soviet Korean intelligentsia had also the opportunity to study either in that city, at the Far Eastern University, or at the Sun Yat Sen University in Moscow.

There were several Korean communist newspapers, of which the largest, *Vanguard*, was published in Vladivostok, 10,000 copies being printed. From 1930 a special Korean newspaper was published for the Korean fishermen of the maritime region. The Committee of the Communist Party of the Korean National District also had an organ of its own, *Along the Path of Lenin*.[8]

KOREANS AS 'SPIES' AND 'DIVERSIONISTS'

In 1937 the policy of building up a little Soviet Korea was completely abandoned. The Soviet nationalities policy adopted a new objective instead, the liquidation of the Korean minority in the Soviet Far East. The Soviet Government had suddenly become aware of the dangerous sides of the Korean immigration to which Przhevalsky had already drawn attention, particularly their presence in strategically important

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656 areas near the Russian borders. In addition, the Soviet régime felt some
563 doubts about the loyalty of the Koreans in a case of emergency. Whilst the Koreans of Korea proper were solidly anti-Japanese, the Soviet régime had no guarantee that the bulk of the Koreans of the Soviet Union would not support the Japanese invader. They had, after all, their grievances, such as forcible collectivization and suppression of local nationalism by the Soviet régime. It must be said in fairness to the régime
[641] that in the years 1936–38 incidents on the Soviet-Manchurian border practically never ceased, and the Soviet State had good reasons to feel its security in the Far East threatened. But in their fear of spies, wreckers and diversionists, the Soviet authorities went so far as to suspect every Korean and Chinese of being a Japanese accomplice, and to seek safety in the wholesale transfer of all Asiatics from the Soviet Far East.

661 This measure, which is a heavy blot on Soviet nationalities policy, was
687 never publicly announced, but it is not too difficult to reconstruct it
563 from indirect hints and omissions in the Soviet Press. The first indirect
648 intimation of extraordinary measures taken, or about to be taken, against Koreans and Chinese was contained in an article about 'Foreign Espionage in the Soviet Far East', which *Pravda* published on April 23rd, 1937. The article stated that the Japanese secret service made use of a large number of Koreans and Chinese as agents in the Soviet Far East. These agents, said *Pravda*, were camouflaging themselves as inhabitants of those districts of the Soviet Far East where they were supposed to carry out their activities. The Japanese intelligence, therefore, closely studied the national composition of every given Soviet district and posted, accordingly, Korean or Chinese or Russian white guards. Not only was primitive 'spying' going on in the F.E.T.; agents were also infiltrating into institutions of military importance, with the aim of creating groups of spies, saboteurs and diversionists. As a rule these agents penetrated into the party as well as the Communist Youth League. Of course, there was, in the view of *Pravda*, a close contact between these direct agents and all local elements hostile to the Soviet power, i.e., 'Trotzkyites and other double-dealers'.**

* It is quite likely that the Japanese intelligence service did infiltrate into the ranks of the Korean and Chinese minorities in the Far East. On the other hand, it is certain that the same method was applied by the Soviet counter-espionage *vis à vis* the Russian emigrés in Manchuria and China proper. In 1940 there were 70,000 Russians in Manchuria (including 40,000 in Kharbin), 20,000 in Shanghai and 10,000 in Tientsin. Many of these Russians were pro-Soviet. Thus four-fifths of the Shanghai Russians acquired Soviet citizenship many months before the city was taken by Mao Tse-tung. The pro-Soviet elements among the Russian colonies in China were naturally of great use to the N.K.V.D. but the primary concern of the latter was to penetrate into the leading strata of the white emigration which collaborated with the Japanese authorities. A popular Soviet play, 'On the other
536 Side', by A. Baryanov shows the cunning way in which Soviet intelligence operated in Manchuria. The hero of the play is a Soviet intelligence officer who poses in Kharbin as the son of a white guard general assassinated by the Bolsheviks. Before going on his mission he learns by heart all the more important prayers of the Orthodox Church, a knowledge which greatly assists him in deceiving the emigrés.

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On the basis of this story, which bore all the hallmarks of a typical plot hatched by the N.K.V.D., everybody, and in particular every Korean and Chinese, could, in future, be suspected of working for the Japanese intelligence. Membership of the party, or of the Komsomol, was no evidence of loyalty; on the contrary it could well serve as an additional evidence of treason, since a spy had every interest in becoming a member of such respectable organizations. 536

Having made its fantastic accusations against the Koreans and Chinese of the Soviet Far East, *Pravda* mentioned these two minorities no more.* On June 28th, 1937, when the new party secretary of the F.E.T. reviewed, in the columns of *Pravda*, the achievements of the Soviet Power in the Far East, he dwelt in some detail on the Jewish immigration into Birobidzhan, but ignored the Koreans. This might have been an oversight on his part. It was more characteristic that the Korean contribution to the victory of the Soviet régime in the Far East, previously so loudly advertised, was not mentioned at all in the many articles which the Soviet Press published at the end of October 1937, in connection with the fifteenth anniversary of the liberation of Vladivostok. 563 166 204

A more important and more direct clue to the transplantation of the Russian Koreans was, however, contained in a cryptic governmental announcement which *Pravda* published on its back page on December 20th, 1937. It said: 'The Council of People's Commissars of the U.S.S.R. and the Central Committee of the All-Union Communist Party (Bolsheviks) have expressed their gratitude for exemplary and precise fulfilment of a Government assignment in the field of transport to the chief of the N.K.V.D. administration in the Far Eastern Territory, G. S. Lyushkov, to the whole staff of the N.K.V.D. of the F.E.T. and to the personnel of the Far Eastern Railway which participated in the implementation of the assignment.'[10] The announcement, it is true, did not mention the nature of the 'government assignment in the field of transport', but there can be no doubt that only a matter of great importance could have warranted this special expression of thanks to the N.K.V.D. and the railways. It was not a military matter since, in this case, the Special Far Eastern Army would also have been mentioned. A large scale shifting of population would be a plausible explanation.

* An article in *Izvestiya* of September 24th, 1937, dealing at length with Japanese spying contained an implicit general warning against Japanese agents in Korean disguise without referring to their activities in the Soviet Far East. The article warned that Japanese spies might have both Soviet and Japanese (Korean) nationality. It mentioned the case of the Korean, Kim Zaen, who headed a 'spying diversionist organization' which was discovered in Moscow in 1934. This Korean had taken on Soviet nationality in 1929 but when he got into trouble the Japanese interceded in his favour and claimed him as their subject.

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THE AFTERMATH OF THE 'LIQUIDATION' MEASURES

000 From a nationalist and imperialist Russian point of view, the measures against the Koreans were amply justified by the border incidents which took place in August – September 1938 in the former Korean National District of Poset. The area in question was, as has been seen, the scene of unpleasant events between Russian and Korean collective farmers, which must have left rather bitter memories. It may have been fortunate for the Soviet Union, therefore, that the Korean population was already evacuated at the time when the Russian-Japanese skirmishes took place.

From a political and international angle, the action against the Koreans did not damage Soviet prestige, owing to the discretion with which it was carried out. Neither the Western democratic camp nor the German-Japanese Anti-Comintern block showed any interest in the 665 problem. Strangely enough, the 'Little Soviet Korea' around Vladivostok 668 had never, except perhaps in the early 'twenties,' had any real export value as far as Korea proper was concerned. Communism in Korea struggled throughout the inter-war period against almost insurmountable difficulties. It remained a small sect without any influence on the popular masses, always an easy prey to all sorts of nationalistic and petty bourgeois deviations.*

It does not seem that the Korean communists have ever made use, in their propaganda, of the Korean National District in the Soviet Union and its achievements in the economic and cultural sphere. Such statements of the Korean Communist Party as are known do not mention the 'District' at all.

241 From the economic point of view the anti-Korean measures resulted 311 in a clear disadvantage for the Soviet Far East, though not for the U.S.S.R. as a whole. One of the main tasks of the Korean minority in the economic field consisted in developing the cultivation of rice. Under the Czarist régime, rice-planting in the Russian Far East had only an experimental character. It did not assume major proportions until after 1917. This was not the merit of the Soviet authorities, but of the Japan-

* The following passage from a resolution which the political secretariat of the Comintern Executive Committee passed in December 1928 might illustrate this point: 'The ranks of the Communist Party of Korea have in the past consisted almost exclusively of intellectuals and students. A Communist Party built on such foundations cannot be a consistently bolshevik and organizationally sound Party. The first task of the communist movement of Korea is therefore to strengthen its own ranks. The problem of improving the social structure of the Party is confronting us in its full scope. The petty-bourgeois intellectual composition of the Party, and the lack of contact with the workers have hitherto constituted one of the main causes of the permanent crisis in the communist movement of Korea. The frequent failures of the Korean communists show that the Party was unable to organize its conspiratorial work properly.' (Resolution of the E.C.C.I. on the Korean Question, International Press Correspondence, February 15th, 1929, p. 132.)

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ese occupants, who had made a close study of the economic potentialities of the Russian Pacific coastal regions during the period of intervention. Japanese experts had estimated that between twenty and twenty-five million acres of Russian land in the Far East could be used for rice plantations.[11] But the Japanese did not approach the problem from a theoretical angle alone; they also encouraged rice-growing in practice. In 1918 only 674 acres of land in the Russian Far East grew rice, against 6,476 acres in 1920, and 21,590 acres in 1921.[12] Encouraged by these successes, the Soviet authorities drew up a 'Ten-Year Plan for Rice Cultivation'. It foresaw that the area to be planted with rice was to reach 232,000 acres in 1936, which was a modest target but meant, nevertheless, a sevenfold increase as compared to the rice-growing area at the beginning of the plan period. It does not seem that the target was ever reached. The departure of the Koreans from the Soviet Far East put a stop to the further development of rice cultivation there. For future reference it is worthwhile to remember that the cultivation of rice, the staple food of the Far Eastern peoples, is possible on a vast scale in the Soviet Pacific coastal areas. This possibility might stimulate future waves of Asiatic immigrants to the Russian Far East, if and when circumstances allow.

THE SOVIET KOREAN DIASPORA

The economic losses which the departure of the Koreans caused to the Soviet Far East were compensated by the benefits which they brought to those areas of the U.S.S.R. to which they were directed by the authorities. The Koreans of the F.E.T. provided very valuable colonists for Uzbekistan. There they were resettled particularly in the Lower, Central and Upper Chirchik Districts of the Tashkent Province, and in the Gurlen District of the Khorezm Province. Many of the Korean colonists have shown a high degree of efficiency, and since the end of the Second World War the Soviet Press has frequently published lists of Korean rice- and cotton-growers who were awarded Orders and Medals for outstanding achievements on the labour front. In one case as many as 31 Koreans of the Tashkent Province were awarded the title 'Hero of Socialist Toil'.[13] Several of the Koreans in question had Russian Christian names or even both Russian Christian names and Russian patronymics, a sure sign that their families had settled in Russia before the coming to power of the Bolshevik Party.

A particularly important piece of pioneering was accomplished by the Koreans who had been sent to the Khorezm Province. Before their arrival there, only steppe grass grew on what are now very fertile rice-fields. In formerly uninhabited territory the Koreans founded, through

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'selfless work', a big 'Stalin Collective Farm', which, every year, increases its rice deliveries to the State.[14]

In addition to the Korean settlements in the Tashkent and Khorezm Provinces, there are Korean groups in other parts of the Soviet Union which came into existence independently of the mass evacuation of the Korean minority from the Far East. The most important of them have lived as rice planters in the Kzyl Orda Province of Kazakhstan since 1928. The Kazakhstan Koreans have not only prosperous collective farms, but also a remarkable cultural institution, the Korean State Theatre, which has repeatedly received honourable mention.

Other Korean communities have been less fortunate, for instance, those transferred to the Don area have disappeared without trace after fulfilling a purpose which was as immoral as it was useful from the point of view of the Soviet régime. The functions of these isolated Korean groups might be illustrated by the example of the Korean communal farm, ('kommuna') 'Don-Ris', which was set up near the Don Cossack village Sinyavskaya in the Taganrog District. The Koreans arrived in that village at a time when collectivization of agriculture was still in its beginning, and the very fact that they at once founded a 'kommuna', a particularly advanced type of collective farm was bound to be felt as a provocation by the local people. The unpopularity of the Korean newcomers increased further when a number of them (including several Korean members of the Communist Party) took an active part in so-called 'economic-political campaigns' ('khozpolitkampanii') which aimed at terrorizing the 'kulaks' and confiscating their property. This created the impression among the local Russian peasants that there existed a close connection between the arrival of destitute Koreans in the area, and the de-kulakization measures. A class conflict which the Soviet Government provoked all over the Soviet Union thus appeared locally as a national conflict. The discontent of the peasants was diverted from the Soviet Government to the unfortunate Korean settlers, who had allowed themselves to be used as shock-troops by the régime, and who indeed had hoped to get a share in the spoils taken from the 'kulaks'. All in all the 'Don-Ris' experiment was a typical example of the 'divide and rule' aspect of Soviet nationalities policy.[15]

II. THE CHINESE MINORITY IN RUSSIA

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It cannot be said with certainty when the Chinese started to live in what is today the Soviet Far East. An outstanding Russian authority on the Ussuri and Amur territories, Vladimir K. Arsenev, stated that the Chinese arrived there only thirty years prior to the Russian annexation, i.e., about 1830. When the Chinese Government ceded the Ussuri Provinces to Russia, by the treaty concluded in Peking on November 2nd,

1: Kolarz J-4 (no date) 1954 RR1 Siberia
MANCHURIA AG 1

1860, it did not know for certain whether there were Chinese subjects in that area. Article One of the Treaty used the tentative phrase 'should there be any Chinese subjects in the Ussuri territory . . .' In such a case the Russian Government pledged itself to leave the Chinese at their places of residence, and to allow them to continue fishing and hunting.[16]

Przhevalsky, the first Russian traveller in the Ussuri region, who has already been quoted, believed however, that the presence of Chinese in the Ussuri area could be traced back to the middle of the seventeenth century. Since then, the country has been used as a place of exile by the authorities of Northern China. At the time of the final Russian occupation the Ussuri region contained, according to Przhevalsky, both a Chinese brigand element and a Chinese sedentary agricultural population. The local Chinese, said Przhevalsky, had developed agriculture to a high degree of perfection and variety. They were growing beans, maize, oats, wheat, melons, red pepper, tobacco, cabbage, garlic and onions.[17]

However divergent may be the opinions about the history of the Chinese prior to the establishment of Russian sovereignty in the Ussuri region, there is general agreement that they constituted a very important factor, at least during the first 60 years of Russian rule in that area. The inefficiency of the Russian administration was the great chance of the Chinese. The absence of generous grants to Russian peasants indirectly favoured the Chinese farmer. The insufficient supply of goods from the Russian hinterland made the Chinese trader a necessity. The lack of an energetic political leadership on the part of the Russians enabled the Chinese to form a state within the state, to live according to their own laws, to have their own private courts, and to rule in many places over the aborigines.

Chinese influence was strong, not only in the forest areas situated some distance from the Russian administrative centres, but also within these centres themselves, particularly in the towns of Nikolsk Ussuriisky, Khabarovsk and Vladivostok. In each of these three towns there were not only thousands of Chinese but also well organized and powerful Chinese societies which worked under the supervision of the Ministry of Labour, Commerce and Agriculture in Peking. The Vladivostok Chinese Society had existed since 1881, that of Khabarovsk since 1889, that of Nikolsk Ussuriisky since 1908. These Societies were frequently frowned upon by the Czarist Government, and there were times when they had to work under conditions of illegality, but it was the Soviet régime which did away with them altogether. The Chinese Societies in these three towns of the Russian Far East were only the most prominent of an entire network of Chinese organizations, which had sprung up in all areas of the Russian Pacific Province where Chinese used to live.

Last but not least the Czarist régime attracted a large number of

THE POLICY OF THE WHITE SOVIET FAR EAST

464 Last but not least the Czarist régime attracted a large number of
653 Chinese labourers to the Russian Far East. Until 1910, Chinese man-
563 power was almost exclusively used for all public works commissioned by the Czarist authorities either in the Russian Far Eastern territories proper or in Manchuria. These included in the first place the port and fortress of Vladivostok and the Ussuri and Eastern Chinese railway lines. Most of the time, the Czarist authorities showed benevolence to Chinese labourers and preferred them to Russians both for their readiness to accept very low wages and for their lack of interest in politics. In 1903 the military governor of the Amur district expressed himself against the despatch of Russian workers to the Far East who he said would only swell the ranks of the discontented, whilst the Chinese workers were placid and caused no difficulties. Legal restrictions against employment of Chinese and other foreign workers did exist during the last few years of Czarist rule; but how little effective these restrictions were is shown from the example of the Far Eastern gold-mining industry. In 1902 it was almost entirely staffed by Russians. In 1916 the share of the Russian element among the goldminers in the Far East was only 7 per cent, practically all others being Chinese.[18]

VLADIVOSTOK OR KAI SHEN VEI?

366 If it is generally true to say that the Soviet régime prevented the Chinese from dominating the Ussuri and Amur region, nowhere has this Russian mission of the Soviet Government found such a clear expression as in Vladivostok, Russia's principal port on the Pacific Ocean.

As long as the Czarist régime lasted, and even in the first years of the Soviet régime, Vladivostok showed every sign of becoming a big international trading centre, a kind of northern Shanghai, instead of being a Russian bulwark on the Pacific Ocean. The big trade of Vladivostok was primarily in the hands of the German and British firms, the most important of all being the Hamburg merchants, 'Kunst and Albers', with roughly the same importance in the Russian Far East which the United Africa Company or John Holt have on the African West Coast. The Chinese supplied the masses of the civilian population of the town for which its Chinese name, 'Kai-Shen-Vei', would have been more appropriate than 'Vladivostok' which means 'Ruler of the East', a term which, at that time, was misleading.

162 The official statistical data give a good picture of the importance of the Chinese factor in Vladivostok. In 1879, seven years after the town had been proclaimed principal Russian port on the Pacific, the population of Vladivostok included about 600 Russian civilians against 3,470 Chinese and 500 Koreans. Russian predominance was artificially maintained by the presence in the town of a military personnel, 4,088 strong.[19] By the beginning of the century the situation had not greatly altered.

1: Kolarz J-4 (no date) 1954 RR1 Siberia
MANCHURIA AG1

The Vladivostok Chinese population was still considerably larger than the Russian civilian population in the city. In 1902 the population of Vladivostok included 15,000 Chinese, 2,300 Koreans, 2,400 Japanese, 11,500 Russians and a garrison of 13,000 men. In the first years of the century the number of Chinese in Vladivostok went on increasing; it reached 23,600 in 1911, and 26,780 in 1912, not including illegal immigrants who were not registered with the Russian police. According to information from Chinese quarters they numbered several thousand.[20] During the first years of the Soviet régime the Chinese element was still very much in evidence in Vladivostok. The census of 1926, it is true, showed a clear preponderance of the Russians, who numbered over 65,500. The Chinese numbering 22,000, ranked second, followed by Koreans (6,900), Ukrainians (6,000), Poles (1,720), Jews (1,180), Latvians (665) and Japanese (582). To the traveller who went from European Russia to Vladivostok the town offered a different picture from the one conveyed by the official population statistics. For example, a reporter of the communist German newspaper *Deutsche Zentral-Zeitung*, which was published in Moscow, gave the following description: 'When entering the waiting room of the Vladivostok railway station, one notices at once that one is in the East. One even thinks one is in China – so many Chinese! Yes, Vladivostok is very largely a Chinese city. . .'[21]

With its large Chinese population Soviet Vladivostok retained in its initial stage, the character of a northern Shanghai. Although the main streets of the city were called after Lenin, Marx, and October 25 (the day of the final establishment of Soviet rule in the Far East), foreign, in particular Asiatic, capitalism had by no means abdicated. It was even favoured by the official 'New Economic Policy'. Vladivostok still had its Japanese banks, it retained its Japanese shipping lines, its Chinese and Japanese hotels. Chinese and Japanese newspapers were published side by side with the Russian communist organ *Krasnoye Znamya*.[22]

The first Five-Year-Plan brought about the doom of the Chinese traders in the Soviet Far East but Chinese could still exist there as hard-working labourers and dockers, particularly in Vladivostok. A communist traveller from Central Europe, Otto Heller, who visited Vladivostok on the eve of the tenth anniversary of its inclusion into Soviet Russia described it as an international workers' town, primarily a town of Russian and Chinese workers. This is what Heller said about the Vladivostok Chinese: 'The Chinese dockworkers who are working in hundreds not only in the transit docks but also in the timber and bunker docks are exceedingly active. Socialist competition, shock-brigades, training courses, abolition of illiteracy – one finds all these to an equal extent among the European and Asiatic workers'.[23] Heller mentioned the building by the Soviet authorities of a new Chinese quarter including clubs, dining halls and a mechanical laundry, but

1: Kolarz J-4 (no date) 1954 RR1 Siberia
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178 368 what impressed him even more was the 'International Seamen's Club' of Vladivostok. He said, significantly, that the influence of the club was felt in all the ports of East Asia. Heller may have overestimated the 668 importance of the club but it is true that both the Comintern and the Profintern, the international Communist trade union organization, had considered Vladivostok as an important base for revolutionary activities in the Far East. The former had founded a short-lived 'Far Eastern Secretariat' in Vladivostok, the latter had convened to that city the Second Congress of its Pan-Pacific Secretariat. This body was intended to foster unrest in all countries bordering on the Pacific and to encourage the foundation of communist trade unions there. The Vladivostok Congress (it was called a 'Conference' when the attendance turned out to be poorer than expected) was a failure and its decisions had no political repercussions in the Far East.

Vladivostok's inability to become a centre of revolution in the Far East was presumably one of the considerations which determined the Soviet Government finally to do away with the 'northern Shanghai', even a proletarian Shanghai, and to transform the city into a Russian bulwark on the Pacific Ocean.

SOVIET RUSSIA AND THE LATINIZATION OF THE CHINESE SCRIPT

212 177 Not only the Chinese population of Vladivostok, but the entire Chinese minority of the U.S.S.R. was, until 1937, and particularly around 1930, expected to play an outstanding part in revolutionizing China. If not to promote the political revolution, the Soviet Chinese were at least intended to bring about a cultural revolution. The latter was to consist in the abolition of the Chinese 'hieroglyphs' and the introduction of the Latin alphabet. Between 1929 and 1937 a number of Soviet personalities, both politicians and scholars, concentrated a great deal of energy on the latinization of the Chinese script. The sequence of events was roughly as follows. A learned Chinese communist, whom the Soviet Press usually referred to under the pseudonym 'Strakhov', worked out a Latin alphabet for the Chinese language. In 1929 and 1930 Chinese workers and students in Moscow, Leningrad, Khabarovsk and Vladivostok held meetings welcoming Strakhov's initiative. Then the Soviet Academy of Sciences took control of operations. A 'Latinization Brigade' was set up within the Chinese section of the Oriental Institute of the Academy. In May 1931, the All-Union Executive Committee for the New Alphabet approved the Chinese latinized alphabet. The 'Latinization Brigade' then went to the Far East, summoned a 'First Conference for Latinization', and organized a permanent 'Far Eastern Committee for the New Alphabet'. Between 1932 and 1934 the new alphabet

1: Kolarz J-4 (no date) 1954 RR1 Siberia
MANCHURIA AG1

was introduced in the few Chinese schools of the Soviet Union whereby the teaching of the 'hieroglyphs' remained a special subject from the second class on. The Chinese newspapers of Vladivostok were also printed in Latin characters. In addition, an entire literature in the new script came into being. By January 1st, 1935, as many as fifty books and pamphlets had been published in the 'Latinghua', as the Chinese Latin script was also called.[24]

The Soviet initiative did stir up considerable interest in China itself, particularly when the first pamphlets in the new script started to reach Chinese intellectual circles. Inspired by the Soviet example, an entire movement promoting the latinization of the script emerged in China which had many supporters. No doubt the penetration into China of the Soviet-invented Latinghua was one of the major successes of the Soviet nationalities policy. But, whilst the Latinghua became an export article, it was suppressed in Russia itself, for no Chinese books, pamphlets and newspapers in Latin characters seem to have been printed in the U.S.S.R. after 1937.[25] The absence of such literature is connected not only with the general measures taken against the Chinese minority in the U.S.S.R. but also with the fact that the Soviet Government had, in the later 'thirties', changed its attitude towards latinization. In 1937 the Soviet Government already had grave doubts as to the wisdom of the introduction of the Latin alphabet for non-Russian peoples. As by that time the Chinese minority in Russia was no longer a recognized factor, it was spared the experiment of a Chinese script in Cyrillic letters.

CHINESE AND RUSSIAN 'PROLETARIAT'

Up to now it would appear that Russian-Chinese relations in the Soviet Far East had been fairly idyllic until the turning point of 1937. In reality there was a great deal of tension between Russians and Chinese, much more than between Russians and Koreans. The ordinary Russian Far Easterner often held the local Chinese minority responsible for the anti-Russian policy pursued by Chinese war-lords in Manchuria, particularly their aggressive actions against the Chinese Eastern Railway which was under joint Soviet-Chinese management. The Chinese-Soviet conflict over this vital railway line reached its climax in 1929, and it was only natural that it should have provoked a wave of chauvinism in the Russian Far East, to which the local Chinese fell victims. Already then the Russians of the Far East would have welcomed the expulsion of the Chinese. However this was not yet official Soviet policy, and the Soviet Government shielded the Chinese minority against Russian hostility as well as it could. But many of the local authorities pursued a policy of their own. In one district, the gold-mining region of Zeya, north of Blagoveshchensk, they embarked on an open persecution of

1: Kolarz J-4 (no date) 1954 RR1 Siberia
MANCHURIA AG 1

the Chinese, and arrested them in large numbers. This injustice was later redressed, and the Soviet officials guilty of this excess were punished by imprisonment from two to five years.

With the connivance of Soviet officials there were also anti-Chinese outrages in Nikolsk Ussuriisky where twelve Russians including the deputy commander of the local militia had to be arrested for 'chauvinism'. Most of the Far Eastern Russians put on trial for chauvinistic activities belonged to the working class. The chief bulwarks of anti-Chinese agitation apart from the goldmines of the Soyuzzoloto trust were the 'Dalzavod', the big shipbuilding yard of Vladivostok and the 'Dalselmash', a plant in Khabarovsk producing agricultural machinery. Russians working in these enterprises frequently assaulted Chinese workmen and used against them such terms of abuse as 'Fazan', 'Kitayeza' and 'Chan-Kai-shi', the last named being the Russian version of Chang Kai-shek.

The Party headquarters in Moscow were continually admonishing the Far Eastern trade union and Party organizations to put an end to the anti-Chinese manifestations. Their laxity in fighting the chauvinists, particularly those of proletarian origin, was notorious. The communist city secretary of Vladivostok, for instance, did his best to stop an investigation by a *Pravda* correspondent into the treatment of the local Chinese.[26]

Notwithstanding all the unpleasant incidents in the Soviet Far East, people in European Russia were persistently told that there was harmonious co-operation between the Chinese proletariat and the Russian working class. A representative of that Chinese proletariat, a shockworker of the Suchan coalmines, was even sent to Moscow to address the Sixth Congress of Soviets which was held in March 1931. He brought greetings from his Chinese fellow-workers, and drew attention to the increased participation of Chinese in local government bodies of the F.E.T. At the Seventh Congress of Soviets, which was held in March 1935, no Chinese representative attended, but the head of the provincial administration of the F.E.T., Krutov, mentioned, in an address to the Congress, several positive facts about the Chinese minority, particularly the existence of Chinese schools, and of a Chinese theatre in Vladivostok. At the Eighth Congress of Soviets which met in November 1936, to adopt the new Stalin Constitution, there was again a Chinese delegate, the famous Stakhanovite of the fishing industry, Li Un Kho.[27] Other Chinese Stakhanovites who had distinguished themselves in coalmining and agriculture were frequently praised in the Soviet Press thoughout the year of 1936, when the Stakhanov movement was still young.

The Chinese proletariat did indeed play an important part in the economy of the Soviet Far East. In 1926 the Chinese and other 'oriental

1: Kolarz J-4 (no date) 1954 RR1 Siberia
MANCHURIA AG1

workers' supplied 50 per cent of all manpower employed in Far Eastern coalmining and 35 per cent of the labour force of the timber industry. So the anti-Asiatic measures of 1937 hit first and foremost the ordinary Chinese workers and not any Chinese upper class. Chinese coalminers, for instance, were removed from the Suchan coalmines in connection with official Soviet statements that 'acts of sabotage' had been committed in the pits in conformity with Japanese instructions.[38]

The second edition of the *Large Soviet Encyclopedia* indirectly confirms the elimination of the Chinese minority of the Soviet Far East. A short article on Vladivostok in the *Small Soviet Encyclopedia* published in 1934 still referred to a 'considerable number of Chinese and Koreans'.[39] The *Large Soviet Encyclopedia* published in 1952, on the other hand, ignores these two peoples when devoting to the city a much more detailed description. The new edition of the standard Soviet reference book has also shown by omission that all institutions of the large Russian port which were the pride of Soviet nationalities policy before the Second World War have gone. The Chinese theatre which, incidentally, was not founded by the Soviets but the Chinese merchants at the end of the nineteenth century, has been abolished. The only four theatres now existing in the city are the Russian Gorky Theatre, the Theatre of the Pacific Fleet, the puppet theatre and the youth theatre.* Also the Chinese newspaper of Vladivostok has disappeared, whereas the number of Russian papers in the city has increased. Even the 'Far Eastern University' with its Chinese and Korean departments was disbanded. It is the only university in the U.S.S.R. which has met such a fate.

After the purge in the Far East, groups of Chinese continued to live in other parts of the Soviet Union, in Moscow, Leningrad and other industrial centres of European Russia, as well as in Soviet Central Asia. The 1939 census, however, indicated a great decrease in the number of Chinese living in the U.S.S.R. As compared with the 1926 census their number was reduced by two-thirds, from 92,000 to 29,000, but these figures may not give an absolutely reliable picture as to the strength of the Chinese element in Soviet Russia, for the 1939 figure seems to include only Soviet citizens of Chinese origin, and not people who retained Chinese nationality.

There is sufficient, though unofficial, evidence available to show that

* There is positive evidence that the theatre was still in existence in March 1937 (*Pravda*, March 22nd, 1937), but it must have been closed down soon afterwards. Foundation and abolition of theatres for national minorities has always been symbolic of the trends of Soviet policy towards the nationalities concerned. In 1931 the Soviet Government founded the 'First Polish Theatre' in Kiev as an encouragement to the Polish minority to build up a Polish national culture independent of the culture of 'bourgeois Poland'. Later, when this attempt was abandoned, the Polish theatre was abolished. In 1949 the Soviet Government closed down the Jewish theatre in Moscow as part of a whole series of repressive measures against Jewish nationalism.

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Manchuria AG1
Southeast Siberia R71

M There is sufficient, though unofficial, evidence available to show that the Chinese in Soviet Russia fared badly in the late 'thirties' not only in 661 the Far East but in every part of the Union in which they lived. F. Beck 687 and W. Godin in their book on the Russian purge[31] mention mass arrests of Chinese, which occurred, apparently, in 1937. The authors themselves had met many Chinese in the prison of Kharkov; they were all charged with espionage in favour of Japan and some even with preparing terror acts against the members of the Soviet Government. Most of them were very humble laundrymen and absolutely incapable of committing the crimes of which they were accused.

III. THE SOVIET EMPIRE VERSUS THE JAPANESE PEOPLE

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648 Soviet Russian policy towards the Japanese suffers from duplicity. As 186 communists, the Soviet leaders are interested in the establishment of a communist régime in Japan, and, as Russians, they want to expand the Russian Empire at the expense of the Japanese people. The internationalist-communist approach towards the Japanese problem has largely remained theoretical whilst the nationalist Russian trend has prevailed in practice.

Soviet Russia's theoretical approach towards the Japanese people has been expressed not only in various pronouncements of the Communist International, but also in novels of Soviet writers dealing with problems of the Far East. The best example of the latter category is Peter [538] Pavlenko's novel *Na Vostoke*, translated into English as 'Red Planes Fly East'. Pavlenko's book, which was written in the early 'thirties', anticipated a Russo-Japanese War. The author predicted that it would end with a communist victory and with mass fraternization between Russian, Chinese, Korean and Japanese communists. The final chapter of the book deals with the building of a new international city in the Soviet Far East situated near the Korean frontier. Most of the inhabitants of the new city are Japanese prisoners of war, reason enough to give the city a Japanese name, 'Sen Katayama', after a famous Japanese communist.[32]

648 The Russo-Japanese War came, but it resulted in quite a different 186 relationship between Soviet communists and Japanese from that which 563 Pavlenko had predicted. Soviet policy towards the Japanese people after the Second World War transformed the 'City of Sen Katayama' into a utopian dream. Soviet Russia's attitude was uncompromisingly imperialistic and nationalistic, not only towards the small Japanese groups living within the pre-1945 frontiers of the U.S.S.R.,* but also

[162] * The number of Japanese living permanently in the territory of the Russian Empire has always been very small. Nevertheless, at the beginning of the century more and more Japanese settled in the Vladivostok region. Their number increased from 2,061 in 1897 to

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Southeast Siberia RZ1
Kuriles RZ2

towards the hundreds of thousands of Japanese colonists in the new Soviet territories – Karafuto and the Kurile Islands. Soviet practice in these territories showed that the Soviet Government did not believe in peaceful co-operation and co-existence between Russian colonists on the one hand and Japanese workmen, peasant settlers and fishermen on the other. The actions taken by the Soviet Government on Sakhalin and the Kurile Islands also proved that Soviet Russia was not guided solely by opposition to Japanese militarism and imperialism; her measures were those of a ruthless European colonial power against an Asiatic people.

The annexation of Southern Sakhalin and the Kurile Islands differed in character from most of the other territorial aggrandizements which Russia carried out during and after the Second World War. In the case of Eastern Poland, the Transcarpathian Ukraine, Bessarabia and the Baltic States, Russia claimed to have liberated the peoples of these territories from fascist, capitalist and landlord oppression. No such argument was advanced about the territories which Soviet Russia took from Japan. Moscow simply invoked the Treaty of Yalta and the historic rights of Russia, making it quite clear that the latter were much more important than the former. There is probably no other instance in which the Union of Socialist Soviet Republics has appeared with such cynical frankness as the heir and successor of the Empire of the Czars. This is how the official organ of the Law Institute of the All-Union Academy of Sciences formulated the 'legal side' of the annexation of the Japanese possessions:

> 'The Yalta and Potsdam decisions providing for the return to Soviet Russia of Southern Sakhalin and the Kurile Islands were no more than the re-establishment of historic justice which was trampled down by aggressive Japanese policy. Southern Sakhalin and the Kurile Islands are genuinely Soviet territories. The historic rights of the Soviet Union on them are based, above all, on the indisputable fact that they were first discovered and developed by Russian seafarers and explorers. . . The fact that Russian seafarers and explorers were the first to discover and develop the Kurile Islands and Sakhalin gave the Russian Government the right to consider these territories as integral parts of the Russian State.'[22]

over 3,000 in 1907, and to over 4,000 in 1909. After the establishment of Soviet rule the Japanese colony in the Russian Far East was all but completely liquidated. At the end of 1925 there were only 600 left. (Academy of Sciences of the U.S.S.R., *Obyasnitelnaya Zapiska k Etnograficheskoi Karte Sibiri* – Explanation of the Ethnographic Map of Siberia, Leningrad 1929, p. 94).

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Southeast Siberia RR1

SAKHALIN

648 When, in August of 1945, the Soviet Government belatedly entered the war in the Far East it pursued one aim above all, to decide the struggle for the island of Sakhalin once and for all in Russia's favour.

Russians and Japanese have disputed the possession of the island ever since the middle of the nineteenth century. The first diplomatic document which reflects both Japanese and Russian interest in Sakhalin was the Treaty of Shimoda, which was concluded in 1855. It established a Russo-Japanese condominium. The condominium status was confirmed by a convention which Russia and Japan signed in 1867, but it was abolished in 1875 by the Treaty of St. Petersburg, which made Sakhalin an undivided Russian possession. In 1905 a radical change occurred. The Treaty of Portsmouth cut Sakhalin in two. Russia lost to Japan the part of Sakhalin south of the Fiftieth Parallel, a territory to which the Japanese refer as 'Karafuto'.

648 Russia and Japan may have been equally eager to own Sakhalin, but
162 the island was of very unequal value to the two Powers. For Russia,
167 Sakhalin was a question of prestige, a strategic outpost and an accessory which rounded off her gigantic Asiatic possessions but which the Russian people did not really need. For Japan, Sakhalin was an outlet for its population surplus and an organic part of its island Empire. Until 1905 the Czarist authorities of Sakhalin had achieved little of which to be proud. The island had then about 40,000 inhabitants or one per square mile. Most of the population consisted of convicts, exiles and their families. Officials and soldiers constituted the second largest group, and there were only a few hundred voluntary settlers who were without any family ties on the island. When Russia lost Southern Sakhalin she naturally withdrew her subjects and Japan had to start from the very beginning to colonize the territory. The Japanese shouldered this task without delay and devoted a great deal of energy to it. In 1910, Karafuto already had over 10,000 inhabitants, and, by the outbreak of the First World War, over 60,000. The Czarist authorities did not succeed in meeting the challenge of the Japanese. After the defeat of 1905 they paid little attention to the part of the island which had remained in Russian hands. Colonization by convicts was stopped, but no free colonization took its place. Many of the former convicts and exiles left the island and there was a marked decline of population. In 1910 only 10,500 people lived in Northern Sakhalin.

648 The successful start of Japanese colonization in Karafuto stirred up Japanese desire for the possession of the whole of Sakhalin, and in 1920 Japan took advantage of the Russian Civil War to occupy the territory north of the Fiftieth Parallel. The conduct of the Japanese

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Southeast Siberia RR1

occupation authorities in Northern Sakhalin from 1920 to 1925 left no doubt as to Japan's intention to stay there for good. The Japanese commander banned all Russian political activities, Japanese civil and penal law replaced Russian legislation, and even the streets of Alexandrovsk, the chief town of Northern Sakhalin, were given Japanese names.[34] It was not so much the progressing consolidation of the young Soviet state which in the end prompted Japan to leave Northern Sakhalin, but rather American insistence on Japanese withdrawal from all Russian territories occupied during the Civil War. Northern Sakhalin was the last Russian territory to be freed from the military forces of the intervention powers. 648

Though liberated from the Japanese military occupation, Sakhalin still remained partly within the Japanese economic sphere. By the treaty concluded in Peking in 1924, Russia granted Japan coal and oil deposits in Northern Sakhalin for a period of 45 years. The Japanese coal concessions were situated on the west coast of the island and covered an area of 13,600 acres. Between 1927 and 1935 between 100,000 and 125,000 tons of coal were exported to Japan from the concession area. The areas of the oil concessions were much larger, and stretched along the entire east coast of the island. By the beginning of the Second Five-Year Plan almost half of all Sakhalin oil was produced by oil wells belonging to a Japanese company.[35] Japanese oil and coal concessions survived the general liquidation of foreign concessions in the Soviet Union which took place during the Second Five-Year Plan. In 1941, when the Japanese Foreign Minister, Matsuoka, signed the Japanese-Soviet Neutrality Pact, he gave a written undertaking that the liquidation of the Northern Sakhalin concessions would follow 'within several months'. However, the actual abandonment of the concessions was carried out only as the result of a Japanese-Soviet agreement of March 1944. 648 315 316

The Soviet régime did its best to learn from the mistakes which from a Russian imperialist standpoint Czarist policy had committed in the handling of the Sakhalin question. It realised that a large number of Russians had to be brought into Northern Sakhalin if the territory were to remain a safe Russian possession, and if its coal and oil riches were to be properly exploited. Soviet experts considered that Northern Sakhalin could, as a fuel base, become the backbone of the entire Soviet Far Eastern economy. They estimated that the Northern Sakhalin coal deposits exceeded two thousand million tons, and the oil deposits one hundred million tons. Bearing all this in mind Soviet Russia entered into a race with Japan for the development of Sakhalin. The Soviet authorities devoted their particular attention to the consolidation of two localities, the 'socialist oil town' of Okha, and the mining town of Due, which absorbed colonists from practically every Russian mining centre.[36] From a purely statistical point of view Soviet Northern 648 167 315 316 433 000

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Southeast Siberia RX1

162 From a purely statistical point of view Soviet Northern Sakhalin proved unable to equal Japanese Karafuto. Throughout the inter-war period the population of Karafuto grew from 106,000 in 1920 to 339,000 in 1938. By the outbreak of the Second World War the population of Karafuto was roughly three times that of Northern Sakhalin, and in 1945 it had more than 400,000 inhabitants. There was, however, a considerable difference of quality between the settlements built north and south of the Fiftieth Parallel. Those constructed on the [362] Russian side were usually more solid and more suitable to withstand [311] the harshness of the climate than most of the housing in Karafuto. But the Japanese did a great deal to develop the fishing and timber industry and to increase coal mining and in the later stages they also encouraged 871 agricultural settlement. The cultural progress in Karafuto was also remarkable. In 1940 the territory had 253 schools with 56,000 pupils (as against 17,500 schoolchildren in Northern Sakhalin in 1945). There were also three secondary schools for boys and three for girls and one commercial college.[37]

648 The necessity for further peaceful competition between Russians and Japanese on Sakhalin ended in August 1945 when, a few days before the end of the war in the Far East, Soviet forces moved into Karafuto. The Soviet troops found themselves in a comparatively densely populated Japanese country where only a few solid block-houses reminded them of the Russian rule before 1905. Everything else they saw in Karafuto was the work of the Japanese administration and of the Japanese people.

727 On the morrow of the occupation the embarrassing question of what to do with the Japanese faced the Russian administrators. The revolutionary Soviet nationalities policy of the 'twenties' would have had a simple answer to the problem: the transformation of Karafuto into a Japanese Autonomous Soviet Socialist Republic as a base for communist infiltration into Japan proper. As the Soviet régime had long ago dispensed with its original concept of internationalism it chose quite a different approach. The Karafuto Japanese were treated as a conquered people who, although not enjoying political rights, were, nevertheless, during a transition period expected to work for the Soviet state under the supervision of Russian civilian and military authorities. The Soviet High Command issued, indeed, a proclamation to the Karafuto Japanese which stated: 'The Red Army has brought you peaceful work and order. It has no intention of interfering with your life. It brings you freedom and happiness. The High Command of the Soviet Armed Forces requests you to stay where you are and to work honestly in factories and workshops, in offices, trading establishments and in agriculture.'

648 727 The proclamation of the Soviet High Command was only a manœuvre designed to prevent chaos in Karafuto pending the arrival of the first Russian colonists: it did not reflect the real intentions of the Soviet

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Government, which was determined from the outset not only that Japanese rule should come to an end but also that Japanese settlers should leave the island to make room for Russians. Soviet Russia could not afford the luxury of a Japanese national minority accounting for roughly 10 per cent of the entire population of the Soviet Far East.

The reunited Sakhalin was to be a Slav bastion as well as a communist outpost in the Pacific. It was natural, therefore, that Russia should have demanded the evacuation of the majority of Japanese to Japan proper. A small group of Japanese remained in Karafuto, but they were told that the country in which they were allowed to continue to live was a Russian territory from which all traces of Japanese civilization and Japanese traditions were to be eradicated. In 1946 a Ukase of the Presidium of the Supreme Soviet stipulated that the towns of Sakhalin were to receive new names which were to bear witness to the Russian contribution towards the opening up of Pacific territories in general, and of Sakhalin in particular. The first Russians to be honoured by having towns named after them were Admiral Nevelskoy and the officers under his command who, in September 1852, had hoisted the Russian flag in Sakhalin. The port of Honto was called 'Nevelsk' and several smaller places were named after other members of the Nevelskoy expedition, for instance Tonnai became 'Boshnyakovo' and Ushiro 'Orlovo'. The largest port of Karafuto – Otomari – was given the name of 'Korsakov' in memory of Captain Rimsky-Korsakov who, in 1853, had taken possession of that place. The town of Shirutoru on the East coast of Karafuto is now called 'Makarov', after another Russian admiral. Another town in Southern Sakhalin was named after the Russian writer Chekhov who had visited the island and given a vivid description of its backwardness under Czarist rule. There are other new names with which nothing of historical interest is associated. Esutoru, the centre of the coalmining region of Southern Sakhalin, is now known as 'Uglegorsk' which is derived from the Russian word 'ugol' (coal). The capital of Karafuto, Toyohara, which had had 50,000 inhabitants under Japanese rule was simply renamed 'Yuzhno-Sakhalinsk' – town of Southern Sakhalin.

These new Russian names were symbols of the victorious entry of Russian culture into Karafuto, expressed in the foundation of Russian schools, by a Russian theatre in 'Yuzhno-Sakhalinsk', and particularly by the arrival of a large stream of Russian colonists. They came, as a Soviet reporter said, 'from the most distant places of the homeland'. They included 'oil workers from Baku, miners from the Donbass and Kuzbass and fishermen of the White, Caspian and Azov Seas'.[38] Collective farmers came to Sakhalin chiefly from the provinces of Tambov, Ryazan, Kirov, Bryansk, Gorky, Kursk, Smolensk, Kaluga and Kostroma, i.e., from Great Russian areas. Ukrainians do not seem

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186 to have participated in the colonization of Sakhalin to any great extent.
167 Was this resettlement action purely voluntary? It was voluntary in the sense that the collective farmers who travelled to their new homes were neither deportees nor victims of the N.K.V.D., as those 'kulaks' sent to distant Far Northern places in the 'thirties' had been. On the other hand, it would be wrong to think that a peasant of Ryazan or Kursk was as free to go or not to go to Southern Sakhalin as an Englishman is when deciding to emigrate to Australia or to New Zealand. The available
166 evidence shows that 'operation Southern Sakhalin' was connected with
626 a certain amount of moral pressure. It was carried out roughly as follows. The Resettlement Administration, which is an agency of the Government of the Russian Federation, first fixed the number of settlers which Southern Sakhalin was to absorb during a certain period. Having done this, the Administration sent out instructions to the various 'Executive Committees' of the provinces of Central Russia to recruit peasant colonists. These instructions were then passed on to the village councils and the individual collective farms. The riches of Southern Sakhalin, its forests, hunting grounds and the excellency of its agricultural soil, were portrayed to the peasants in vivid colours. But the peasants were also told that emigration to the new Soviet land was a patriotic duty. This was reflected in the slogan which was chalked on the railway trucks carrying the first settlers to the distant land. It said 'The Homeland has sent us to Southern Sakhalin'.[39] However, there were quite a number of material incentives which prompted people to go to the island. Each collective farmer ready to settle down in Sakhalin received from the
[452] State a loan of 20,000 roubles only half of which was to be repaid in instalments spread over ten years.

167 Even more important than the development of agricultural colonization was the recruitment of personnel for the fishing industry of
228 Southern Sakhalin. The fishing industry of the reunited island yields about one-seventh of the catch of fish of the U.S.S.R., and about one-quarter of the world's production of canned crab. A large number of demobilized soldiers were, therefore, encouraged to take up residence in the territories reconquered from the Japanese. This part of the Russian colonization of Karafuto took place under the supervision of one of the foremost leaders of the Soviet state, Anastas Mikoyan.

Sakhalin and the Kurile Islands have such a high priority as resettle-
[656] ment areas that they are being colonized even at the expense of the 'old' Soviet Far East. A Government decree of March 1st, 1946, stipulated that
[465] wages and salaries in Sakhalin were to be fifty per cent higher than on the Far Eastern mainland, and on the Kurile Archipelago, even 100 per cent higher.

167 To maintain the stream of colonists to Southern Sakhalin, Soviet
208 propaganda extolled the achievements of Russian reconstruction work
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Kuriles RR2

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there in enthusiastic terms which were similar to those previously used about the building of Komsomolsk. Poets, songwriters and novelists were mobilized to tell the Russian people that 'there are no distant islands but only one great powerful Russia', that Sakhalin must remain Russian for ever, and that 'no smell, no breath' must be left over from the Japanese, as the poet Feoktisov said in his poem 'Fiftieth Parallel'.[40]

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KURILE ISLANDS

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Soviet occupation of the Kurile archipelago at the end of the Second World War was different in character from the establishment of Russian sovereignty over Southern Sakhalin. The occupation of the Kurile Islands meant the replacement of an Asiatic by a European imperialism. It cannot possibly be described as a blow to the Japanese people. Only the two southernmost islands of the Kurile chain, Kunashiri and Jeterofu Shima, were an exception in this respect since Japanese colonists had there established themselves and founded ten and five villages respectively.

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The northern Kurile Islands, though unsuitable for colonization for climatic reasons, proved to be of the utmost strategic importance to Japan. The northernmost island of the archipelago, Shimoshuto, forms an ideal jumping board in the direction of Soviet Kamchatka, from which it is separated by a distance of less than seven miles. The second northernmost Kurile island, Paramushiro, proved to be a valuable Japanese naval base, being closer to the westernmost Aleutian Islands, Attu and Kiska, than the nearest American naval base of Dutch Harbour. For Soviet Russia, too, the strategic value of the Kurile Islands is paramount. In Soviet hands the Kurile Islands form a dagger pointed toward the Japanese island of Hokkaido, as well as improving Russia's strategic position *vis-à-vis* the United States.

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Ever since Russian sovereignty over the Kurile Islands was re-established in 1945, the Soviet Government has tried to consolidate its position there by the encouragement of Russian colonization. Soviet propaganda has frequently commented sneeringly on the inability of the Japanese to colonize the archipelago – there were never more than 15,000 Japanese in the islands – and has predicted that Russians would do their job more efficiently and put the Japanese to shame. Only young and enthusiastic Soviet citizens, such as Communist Youth League members imbued with a high spirit of adventure and patriotism, were considered fit for the difficult task of colonizing the Kurile Islands.

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Konstantin Badigin, a 'Hero of the Soviet Union', after visiting the Kurile Islands, told the Soviet youth in the newspaper *Komsomolskaya Pravda*: 'Here (in the islands) a wide field is opening for the constructive energetic activity of our youth. May our boys and girls remember their

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728 distant ancestors, those fearless seafarers and untiring explorers who,
167 centuries ago, did so much to make the Kurile Islands ours, and may
186 they give their strength to the rebirth of these far-off genuinely Russian lands.'[41]

167 A few thousand Russians have responded to this and other similar
361 appeals. Among the new Russian settlers of the Kurile Islands there are many young demobilized soldiers as well as fishermen from Archangel, Astrakhan and the Far Eastern mainland. The Russian colonizers paid particular attention to the three islands in which the Japanese had been interested, Kunashiri and Jeterofu Shima in the south, and Paramushiri in the north. The administrative headquarters of the 'Kurile District' were set up on Jeterofu Shima or Iturup. One of the Japanese villages of the island was transformed into the Russian settlement 'Kurilsk', and serves now as a Soviet district centre. Another 'economic and cultural centre', Yuzhnekurilsk, was erected on Kunashiri which because of its nearness to Japan exercises particular attraction on the new colonizers. A third Russian township, Severokurilsk came into being on Paramushiri, the former Japanese fortress island.

208 To encourage further settlers to go to the Kurile Islands official propaganda tries to create the impression that sport, culture and medical and economic conditions in the new Soviet colony are little different from those prevailing in the most civilized parts of the U.S.S.R. The following is a typical news item trying to 'catch' colonists from among the young generation:

[529] 'A stadium for 3,000 spectators has been built in the youngest Soviet town – Severokurilsk on the Kurile Islands. Although this town is little more than one year old, sports have already made considerable progress in it. The Dynamo, Spartak and other sports societies have set up branches there. Football is especially popular. Severokurilsk football teams will participate in the match for the championship of the Soviet Far East'.[43]

Another news item, published from 'Kurilsk', announced the publication of a newspaper the *Red Lighthouse*, the foundation of three clubs, of a 'House of Culture' and of three hospitals.[43] A third item claimed that a circle of young writers and poets had been organized in Yuzhnekurilsk.[44] The photographs which have been published about the new Soviet settlements on rare occasions have somewhat contradicted the optimistic picture of the Press reports; they show a rather primitive state of affairs.

It is doubtful whether the official propaganda campaign has made the Kurile Islands in any way more attractive to the average Soviet citizen. In the popular mind they are tantamount to the end of the world and people are afraid of being sent there.

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KAMCHATKA

167 648 161 228 In Kamchatka, too, the Soviet régime was able to inflict a heavy defeat on Japan and make up for a certain 'neglect' of Russian national interests by the Czarist régime. Being unable to exploit fully the waters off Kamchatka and of the Okhotsk Sea, Czarist Russia had granted equal fishing rights to the Japanese in a Fishing Convention signed in 1907. The Convention resulted in a peaceful Japanese invasion of the Kamchatka peninsula. In 1910 as many as 6,869 Japanese were engaged in the fishing industry of Kamchatka, whilst its total population was 9,500. In the following years the number of Japanese steadily increased, and, in 1914, 8,886 Japanese were working in the fishing industry of Western Kamchatka, as against 1,569 Russians, some of whom were employed by Japanese firms.[45]

During the Russian Civil War, Japan contrived to consolidate her predominant position on the peninsula. Between 1917 and 1922 she raised the number of fishing lots in Kamchatka from 200 to roughly 400. All but one of the twenty-four canneries which existed in Kamchatka in 1923 were in Japanese hands.

648 728 228 When Russian sovereignty over the Far Eastern territories of the Russian Empire had been fully restored, Soviet leaders deemed it advisable to tolerate Japanese presence on the peninsula for a certain period. At the same time, everything was done to consolidate the Russian position in Kamchatka without openly provoking Japanese hostility. This consolidation was achieved by the planned increase of [167] the population of Southern Kamchatka, which, between 1927 and 1934 alone, grew from 9,700 to 28,300. The immigration of Russians into the economically vital areas of the peninsula enabled the Soviet authorities to replace Japanese workers by Russians fairly rapidly. As late as 1928 Kamchatka's fishing industry relied on 52 per cent Japanese manpower. Four years later that percentage was reduced to 4, and in 1933 there were no longer any Japanese workers in the peninsula's fishing industry. In the same year the number of Russian canneries in Kamchatka reached 21 while there still existed 25 Japanese canneries. Despite all the progress made by the Russians, Japan, in the middle of the 'thirties', was still in control of two-thirds of Kamchatka's catch, including the most valuable salmon catch. In 1936 between 10 and 12 per cent of the entire Japanese fish production and 40 per cent of Japanese crab fishing were supplied by the Kamchatka catch.

228 648 During the Second World War Japan was allowed to maintain her canneries in the peninsula. On March 10th, 1944, the Soviet-Japanese Fishing Convention was extended until the end of 1948. The Allied victory over Japan, however, made the Convention null and void long

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before the date of its expiration, and so did away with the last foreign 'concession' in Soviet territory. So it was that the Soviet Union won the 'Battle of Kamchatka', a keen contest for the first place among the fishing powers of the world. It was a battle without bloodshed, but it may prove to have been more costly to the Japanese in the long run than the battles of Okinawa and Iwojima, provided that the Russians are able to exploit to the full the advantages they have gained. The establishment of a Russian fishing monopoly in the north-western Pacific, which Japan's defeat made possible, meant that the Soviet régime could broaden considerably the food supply base of her north-eastern possessions and extend Russian colonization in Kamchatka and the areas around the Okhotsk Sea. It seems, however, that the Soviet régime took more away from the Japanese than it could digest. It has never been able to fulfil the fishing part of the Five-Year Plan in the Far East.

* * *

Soviet policy towards Eastern immigrants compares unfavourably with the treatment which the United States and Canada meted out to the 313,000 Japanese of Hawaii and North America (160,000 in Hawaii, 129,000 in the United States proper and 24,000 in Canada) even after the Pearl Harbour attack. The differences between the Soviet and the North American approach can be summarised as follows:

1. Canada and the United States evacuated the Japanese from certain strategically exposed territories at a time when the two countries were at war with Japan. Every attempt was made not to remove them too far away from their original homes. Most of Canada's Japanese, for instance, were allowed to remain within the 'Canadian Far West'. Soviet Russia deported her oriental immigrants from border areas both before the beginning of hostilities and after their termination. The immigrants had either to leave the Soviet Union altogether, as was the case with the Japanese, or take up residence in areas a great distance from their original places of residence as in the case of the Koreans and Chinese of the Soviet Pacific coastal province.

2. In Hawaii the United States have succeeded in Americanizing the Japanese community and rendering it largely immune against Japan even in time of war. Less than 1 per cent of the entire Japanese population of Hawaii were interned, and only 981 Japanese were deported to North America. These were mostly Shinto and Buddhist priests, teachers, and other persons known for their sympathies with the Japanese cause. All the rest were able to continue their work as shop-keepers, farmers and clerical workers throughout the war. Some of the younger Japanese even served in the American army. After the war only one hundred Hawaiian Japanese returned to Japan. From Canada not more than one-sixth or four thousand of the whole Japanese community went to their country

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of origin after 1945. Communist Russia, on the other hand, showed by the wholesale evacuation measures in the Soviet Far East that she did not believe in a successful future 'sovietization' of the Japanese of Sakhalin and the Kurile Islands, or even of the Vladivostok Chinese and Koreans.

3. In North America even the Japanese evacuees enjoyed the benefits of democratic institutions. The Japanese of California took their case, though unsuccessfully, to the Supreme Court of the United States and there was freedom of speech in the Japanese 'relocation centres' that existed in California, Arkansas, Utah and Idaho. Japanese Americans found champions among Americans of Anglo-saxon stock and a comprehensive book which took up their case with great insistence saw as many as five reprints during the war. The Canadian Japanese too were not helpless. They had associations and a newspaper *The New Canadian* to defend their interests. The case of the Canadian Japanese was amply discussed in parliament and in the Press. Nothing of all this is possible under Soviet conditions.

4. All negative measures taken against the Japanese in Canada and the United States took place under the full control of public opinion. The administration had to render account for every single evacuated Japanese, for housing and health conditions in the reception areas, and even for the school attendance of the evacuated Japanese children. In the Soviet Union the evacuation of Chinese and Koreans took place under conditions of the greatest secrecy and is not traceable in any accessible official records. It was the arbitrary action of a police state.[46]

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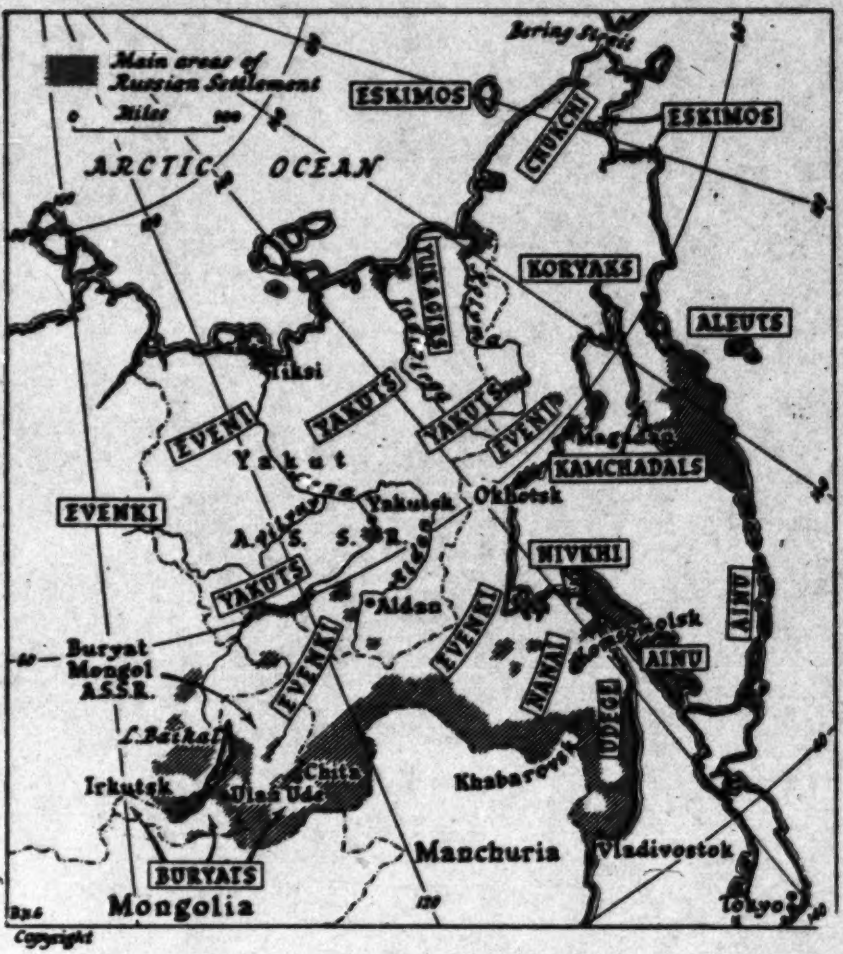

3. THE ABORIGINES OF THE SOVIET FAR EAST

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III

THE ABORIGINES OF THE SOVIET FAR EAST

101 There are about 60,000 aborigines in the Soviet Far East (excluding Yakutia and Buryat-Mongolia) belonging to over a dozen different nationalities. The ethnographers divide them into two main groups. The first group, the Paleoasiats, includes the Chukchi, the Koryaks, the Asiatic Eskimos, the Aleuts, Ainu, Nivkhi and Kamchadals. Of the second, the Manchu-Tunguz peoples, the most important are the Tunguz proper, or Evenki, the coastal Tunguz, or Eveni, the Nanai and the Udege. Politically and sociologically all these nationalities
563 must be considered as one single entity. The Soviet régime has treated them quite differently from the Korean, Chinese and Japanese minorities. As the small groups of aborigines are unable to handicap Russian colonization, the Communist Party has patronised them, and Soviet propaganda has always devoted a great deal of publicity to them, even at a time when there was complete silence about the Koreans and Chinese of the Soviet Far East. This does not necessarily mean that Soviet Russia has handled the problems of the Far Eastern aborigines successfully.

TWO VIEWS ON NATIVE POLICY

563 In the first years following the October Revolution the most authoritative
177 Russian anthropologists felt that the time had come to take special
656 measures to protect the Far Eastern and Far Northern natives from the pernicious influences of European civilization. Demands to that effect were voiced, in the winter of 1921–22, in the organ of the People's Commissariat for Nationalities, *Zhizn Natsionalnostei*. The most remarkable contribution to the problem of the small nationalities came from Professor Vladimir Germanovich Bogoraz-Tan (1865–1936), who had a profound knowledge of the problems of the tribes of North-Eastern Siberia, particularly of the Chukchi. Professor Bogoraz suggested that the Soviet Government should draw the lessons from certain experiments carried out in the native territories of Canada, the United States, Brazil and Argentina. It seemed vital to him that the mode of

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life and the living conditions of the primitive tribes should be protected against every influence on the part of their more civilized Russian neighbours, or even of other stronger non-Russian peoples. Russians, Bogoraz said, should not be allowed to make any use whatever of the territories inhabited by the 'primitive tribes'. They should not even be permitted to enter them. Exceptions were to be made only for three categories of people, first anthropologists and linguists, secondly certain persons who would render practical services to the territories, such as doctors and technicians, and thirdly the ideologists of the new régime. Professor Bogoraz warned against making any economic experiments with the natives. He said that such experiments would not enhance the welfare of the Far Northern and Far Eastern tribes, but would, in fact, undermine their existence.[1]

To carry out a systematic policy of protection of the natives Professor Bogoraz demanded the foundation of a special committee to be attached to the People's Commissariat of Nationalities. Such a committee was in fact founded with the prominent participation of Professor Bogoraz himself. It was the 'Committee of the North'. It had a huge bureaucratic apparatus consisting of five departments. The first dealt with administrative and legal matters, the second with economic and financial affairs, the third was concerned with scientific research, the fourth with health and the fifth with education. The Committee of the North had a Far Eastern Bureau in Khabarovsk which dealt with the small Far Eastern nationalities.

From the very beginning two tendencies made themselves felt within the Committee. People like Bogoraz-Tan viewed its work primarily from a philanthropic point of view. They thought that the Committee was nothing more than an organization to assist the Far Northern and Far Eastern peoples to recover from the blows which contact with European civilization had inflicted on them. Die-hard Bolsheviks, on the other hand, had a different approach. They considered the Committee to be an instrument of economic exploitation of the Far Northern territories, and for fostering class struggle among the tribes.

Their view did not prevail at once. In the first five years of its existence, between 1924 and 1929, the Committee did not interfere much with the tribal system of the Far North and Far East. The administrative pattern enforced in other parts of the Soviet Union was not extended to the small native peoples. Those living in the Far East were given such forms of local administration as were acceptable and comprehensible to them. Each tribe had a Tribal General Assembly ('Obshchee Rodovoe Sobranie') which elected a Tribal Executive Committee ('Rodovoy Ispolnitelny Komitet'). Several related tribes sent delegates to a Tribal District Congress ('Rayonny Rodovoy Sezd') which elected a Tribal District Executive Committee ('Rayonny Rodovoy Ispolnitelny

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Komitet'). The Tribal Committees of the lower order were later described as 'Native Soviets' ('Tuzsovety') of which there were 400 all over the Far East and Far North. The most remarkable fact about this tribal administration was that participation in tribal and native Soviets was not limited by class criteria.

This idyllic state of affairs could not last long. From one plenary meeting of the Committee of the North to the next the intransigence of its more radically minded members increased. In 1929 the Committee firmly decided to apply the principles of class struggle to the Far North, and from 1930 onwards, the tribal administration was abandoned. Regular organs of local government ranging from village Soviets to 'National Areas' ('Okrugs') were created instead. This meant in fact the end of the 'native reserves' which the Russian anthropologists had advocated in the early years of the Soviet régime. Under the new set-up Russian and other European Party and State officials were able to increase their influence in the running of native affairs. The natives were linked politically and administratively as closely as possible with the metropolitan territories of the U.S.S.R. In 1935, the Committee of the North itself was disbanded.

By the time of its abolition the Committee had lost a great deal of its previous importance. Many of its original duties had been taken over either by the Chief Administration of the Northern Sea Route, 'Glavsevmorput', or by local government organs. The Chief Administration of the Northern Sea Route, which had at its disposal a large staff of experts on nationalities problems, was originally launched as a body with extremely wide powers. Among other things, it was supposed to look after the well-being of the Far Northern tribes, direct cultural work among them, organize health services and help to promote their 'sovietization'. In the autumn of 1938 the Soviet Government decided that 'Glavsevmorput' could not carry out these tasks properly. A decree of the Council of People's Commissars stipulated that it was to hand over to the territorial administrations all enterprises and institutions which were not directly connected with the development of the Northern Sea Route.[2]

COMMUNIST ADMINISTRATORS

The abolition of the Committee of the North in 1935, and the curtailing of the powers of the 'Glavsevmorput' in 1938, increased the responsibilities of the administrative authorities and party organizations of Khabarovsk. It cannot be said that the latter have shown great enthusiasm for work in the National Areas and National Districts of the small nationalities. In fact, up to 1939 most of the officials posted to distant parts of the Far Eastern (later Khabarovsk) Territory went

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647 665 there as a punishment. People who were an embarrassment to the authorities, for one reason or another, were frequently sent to the Arctic regions as administrators and Party secretaries. Most cases of abuse of which such ill-suited administrators had been guilty in distant territories were hushed up, but occasionally they became public, as in the case of the Soviet Commander of the Wrangel Island,* which is part of the Chukcha National Area, and situated off its Arctic coast.

The commander, whose name was Semenchuk, had committed the most outrageous arbitrary acts against both Chukchi and Eskimos, the native population of the island. He and his assistant, Startsev, had caused the death of a number of natives, but the Wrangel Island scandal would probably not have come to light had they not also assassinated the local Russian doctor. The two Soviet administrators were brought to Moscow as defendants in a big trial in which Vyshinsky himself acted as prosecutor. A sixty-five page Vyshinsky speech contains an exhaustive description of the Semenchuk régime on Wrangel Island. Semenchuk's authoritarian idea of the role of a Soviet administrator in the land of the Chukchi and Eskimos was summarised in the following pronouncement which he had made. 'I am the GPU here; I am the court, I am the Public Prosecutor. I have the power of life and death.'

Semenchuk and Startsev were sentenced to death and executed in 1936, but it is still a mystery how the Soviet Government could entrust the strategically important Wrangel Island to an outright criminal. Semenchuk had been in prison for the theft of silver cutlery from the Soviet Embassy in Teheran shortly before being dispatched to the Far North.[3]

The case of Semenchuk and Startsev is obviously an extreme one. There is no reason to doubt that some of the administrators are ardent idealists, determined to improve living conditions and promote education among the local peoples. If we can believe the Secretary of the Department of Cadres of the Khabarovsk Territorial Committee of the Communist Party, there has been a better selection of administrators for the distant areas of the Far East since 1939. The secretary in question had promised in that year that Party posts in these territories would be given in future only to particularly trustworthy persons. He had said,

648 167 * Russian sovereignty over Wrangel Island was established only with some difficulty Both Canada and the United States had striven to attach the island which has an area of 2,700 square miles to their respective territories. The Canadians established their claim by wintering on the island from 1921. They reasserted it by hoisting the flag there in 1921, and in 1922 the Canadian Prime Minister solemnly proclaimed the annexation of the island in a statement before the Ottawa Parliament. The Soviet régime can rightly claim to have rescued Wrangel Island for Russia. In 1924 the crew of the Soviet gunboat 'Red October' took it over and expelled the only Canadian who lived there, together with a group of 'anti-Soviet' Eskimos, who, they asserted, were engaged in illegal hunting of fur animals. The Soviet authorities then brought their own colonists from the mainland, mostly Chukchi and Eskimos, with a few Russians.

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indeed, 'The further away we send a man, the more we must be able to trust him'.[4] It can be taken for granted that a man whom the Communist Party considers particularly trustworthy will be a hard-working official, and that he will not commit any crimes such as those of which Semenchuk and Startsev had been convicted. But a trustworthy communist is not necessarily a man who understands the mentality of the Far Eastern aborigines, and who deals with their problems in the best way.

NATIVES, STATE TRUSTS AND FORCED LABOUR

In addition to the Party and the territorial administration, there is a third influential factor in the Far East which has a great impact on the 'natives', namely the big State capitalist organizations of Kamchatka, Chukotka and the territories around the Okhotsk Sea. Instead of assisting and strengthening native economy the Soviet régime encouraged the growth of State companies such as the 'Kamchatka Limited Company' (later known as 'Glavkamchatrybprom' – Kamchatka Chief Administration for the Fishing Industry), the 'State Reindeer Trust', the 'Dalrybtrest' (Far Eastern Fishing Trust) and 'Soyuzpushnina', the State organization for fur trading. Soviet experts on the Far East themselves have admitted that these enterprises employed people who were guided by a 'narrow-minded business attitude' and who discharged their duties in a 'crudely materialistic way'. All they wanted was to fulfil the target figures of the state plan. They were not interested in assisting the natives either by supplying the most essential food commodities or by encouraging cultural work. The enterprises concerned, in particular the Kamchatka Company and the Reindeer Trust, seized land, and hunting and fishing grounds traditionally belonging to the natives. Even land owned by newly established collective farms of reindeer-breeders was arbitrarily confiscated by State trusts.[5]

Another State enterprise, the previously mentioned 'Dalstroy', which operates around the Okhotsk Sea, has also greatly affected the life of the 'natives' who live in its territory. The first director of Dalstroy, E. Berzin, pointed out in 1936 that the trust had opened schools and hospitals in all centres of the native population. The budget of the native communities ('National Districts') had increased almost ten times during five years.[6] What Berzin did not say was that the native schools and hospitals had been built with the profits which Dalstroy had made by exploiting forced labour. As a matter of fact, some of the schools of which Berzin boasted are 'mixed schools', which are attended both by natives and by children of convicts who were born in captivity and taken away from their mothers.[7] In the area controlled by the Dalstroy we thus meet the most sinister aspect of the 'Soviet nationalities policy', namely, its

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connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

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Soviet officials failed to understand that the reindeer plays a vital part in the life of the Northern tribesmen, and that it is not a mere subsidiary to their economy as is the cow of the Russian peasants. According to the tribal customs of the Koryaks and Chukchi it is a sin to sell a living reindeer. The Soviet administrators denounced this custom as sabotage, and imposed on the reindeer-breeders not only compulsory sales, but also the confiscation measures which accompany collectivization. The setting up of collective farms and state farms in the native territories of the Arctic regions of the Soviet Far East, led in the 'thirties' to the unleashing of a violent class struggle which, in turn, resulted in a drastic drop in the number of reindeer. Not only did the rich reindeer breeders engage in large scale 'predatory slaughter' of the animals, but they also hampered the collectivization and nationalization measures in other ways. To escape 'de-kulakization', they split their large herds into smaller ones, and distributed them among their shepherds. Moreover pastureland was wilfully destroyed, apparently on a considerable scale.

Loss of reindeer occurred not only in the private but also in the State-controlled sector. The new State farms which were to introduce higher forms of reindeer breeding were, in reality, far more inefficient than the individual reindeer breeding nomad. In the Far East the State reindeer farms lost one-third of their herds within a single year – a catastrophe which could not be attributed entirely to the infiltration of class-alien elements.

Official Soviet statistics about the development of Soviet Russia's reindeer population demonstrate convincingly what damage the collectivization measures caused. In the first years of the communist régime when state interference with the Far Northern economy was slight there was a clear upward trend. The number of reindeer in the entire Soviet Union increased from 1,765,000 in 1923 to 2,193,000 in 1926–27 and to 2,700,000 in 1931. The year 1931 was the turning point. In 1932 the stock fell to 2,333,000, in 1933 to 2,030,000 and in 1934 it was as low as 1,889,000. These figures which apply to Soviet Russia as a whole do not fully reveal the catastrophic consequences of communist reindeer policy in the Far East. In the Koryak National Area, for instance, where full collectivization had been planned for 1933, the number of reindeer decreased from 264,000 in 1926 to 173,000 in 1932 and 127,000 in 1934.[12]

Soviet statistical evidence about Russia's reindeer population after 1934 is contradictory. Figures produced by various official Soviet sources show a large margin of difference. The *Small Soviet Encyclopedia* says that on January 1st, 1938, the number of reindeer was 1,766,000.[13] This would mean that the situation was then even worse than in 1933. On the other hand, a Soviet standard work on Russian reindeer-breeding published in the post-war period claims that the number of reindeer in 1938 was 28 per cent higher than in 1933. But even this book which

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233 474 gives an optimistic picture of the Russian reindeer situation states that a new period of decline set in during the war owing to the increased slaughter for the army and inferior care of the herds resulting from the mobilization of many native herdsmen.[14] After the war the position improved but whether and when the peak figure of 1931 was reached again, is impossible to say. Such increases in the number of reindeer as there were, were brought about, it seems, by a more liberal application of the collective farm statute. Collective farm members were encouraged to own small reindeer herds privately. The maximum size of these privately owned herds is not known but cases have been mentioned of individual collective farmers having as many as 80, 90, 130, and even up to 200 reindeer each.[15]

233 874 The reindeer problem has caused difficulties to Soviet administrators not only in the purely economic sphere but also in the field of education. What is needed in the Far North is a school which would help to raise hunting and reindeer breeding to a higher level. The more enlightened Russian pedagogues are the first to admit that such a school does not exist. One of the school inspectors posted to Northern Siberia quoted, not without a certain measure of approval, a reindeer breeder who refused for a long time to entrust his two sons to a Soviet boarding school. The father in question said that he taught his children to hunt game, to catch the polar fox and to ride reindeer. In school, he added, they would not learn all this, and when they had finished they would have no practical knowledge. An article in the *Teachers' Gazette* stated that there was a 'grain of truth' in the complaint of the old reindeer breeder. 'The school is indeed too much cut off from practice and thus not able to prepare children for the life in the Far North.'[16] A similar problem, it is true, also exists in other countries. Richard Finnie, in his book *Canada moves North*, says that Eskimo children, after spending years in boarding schools, return to their families unfitted for the lives they must lead.[17]

THE CULTURAL REVOLUTION

212 871 171 Whatever the quality of school education in the Russian Far North may be, it is a fact that the Soviet authorities have carried out a big cultural revolution in the native territories. The most important part of it has been the liquidation of illiteracy. Until 1931 the Far Northern and Far Eastern peoples could express themselves in writing only in the form of drawings or through the medium of the Russian language. In May, 1931, they received an alphabet of their own, the 'Unified Northern Alphabet' as it was called. It was officially approved by the Ministry of Education of the R.S.F.S.R. The 'Unified Northern Alphabet' was a Latin alphabet and the decision to adopt it was not taken without a long struggle fought out behind the scenes between the supporters of latiniza-

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tion and those who preferred the Russian alphabet or at least a 'mixed alphabet' in which Russian letters would predominate. 871 212

In the Soviet Far East the ethnographic section of the Society for Regional Research declared itself with great vigour against all attempts at russification. In a memorandum the Society listed four reasons why only the Latin alphabet could be introduced for the languages of the Chukchi, Koryaks, Nanai, Nivkhi and the other Far Eastern tribes: 178

1. The successful latinization of the alphabets of the oriental languages.
2. The genuinely international character of the Latin alphabet.
3. The inadequacy of the Russian alphabet which would have to be supplemented by a number of letters.
4. The fact that the Russian alphabet itself would not be long-lived since progressive scholars had already raised the question of its latinization.[18]

These four considerations were shared by the Moscow authorities who had decreed the introduction of the Latin alphabet for the Northern peoples.

The Latin alphabet remained in force for less than six years – until February 11th, 1937, when a new decree abolished and replaced it by a russianized alphabet. The new script was intended for thirteen small nationalities of whom eight lived either wholly or partially in the Far East. The replacement of one alphabet by another rendered necessary the destruction of a large amount of printed material that had been prepared for the Northern peoples. Between 1931 and 1933 alone as many as 200,000 textbooks, 100,000 pamphlets of a political nature and 10,000 books on medical and economic subjects had been issued for them.[19] [214]

Soviet school policy proper did not suffer from such a disturbing lack of continuity as the Soviet literacy campaign. The number of schools increased systematically and steadily and now there are as many as 200 native schools in the Khabarovsk Territory. They are supervised by a Council of National Schools which was created in 1949 and which works under the education department of the Khabarovsk territorial administration. The Council does not only administer schools but also deals with all problems connected with the writing of text-books, and the translation of classical Russian and Soviet literary works into the local languages. The Council relies on the graduates of the teachers' training colleges in Petropavlovsk (for South Kamchatka), Anadyr (for Chukotka), Tigilsk (for North Kamchatka) and Nikolayevsk-on-Amur. The most important and largest of the four is the college in Nikolayevsk. Between its foundation in the early 'thirties' and 1951 it trained 170 Russian and 105 native teachers belonging to ten different Far Eastern nationalities.[20] The most gifted young people from among 871 [875]

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the Far Eastern aborigines are sent to the Pedagogical Institute of Khabarovsk, where there is a department for the Far Northern nationalities, and a few are even admitted to the Herzen Pedagogical Institute in Leningrad. Courses at the Far Northern Department of that Institute last three years, and the curriculum includes 'Foundations of Marxism-Leninism; the great works of Stalin on questions of linguistics; the history of Russian pre-revolutionary and Soviet literature; folklore, and many other subjects'.[21] In addition every student has lessons in methods of teaching, in the grammar of his own national language, and in the history and ethnography of the peoples of the North.

Native students are also instilled with a feeling of hatred against the non-communist world. The results of this indoctrination can be gauged from the answers which a Yakut student gave, according to *Pravda*, at his final examinations at the Leningrad Pedagogical Institute. 'The Yakut student, E. Sysosyatin, talked at the examination of the situation of the Eskimos, Aleutians and Red Indians in America. He mentioned many facts which unmasked the American imperialists, and their criminal policy directed towards the total extermination of these peoples. To the horrors of misery, starvation, inhumane privations and persecutions to which these nationalities are subject in America, even greater atrocities have been added during the past few years. As has become known, the American imperialists, preparing bacteriological warfare, tried out the effects of the deadly microbes on the Eskimos. As a result of these cannibalistic experiments many Eskimos in America died of bubonic plague.'[22]

Soviet dictatorship indoctrinates all citizens of the U.S.S.R., whether Russians or Uzbeks, Ukrainians or Georgians, Latvians or Chukchi. It gives to all of them a completely distorted picture of the nations outside the communist sphere. This campaign of hatred and distortions, while morally wrong in every single case, is particularly contemptible if directed towards the youth of primitive peoples. By trying to transform young native intellectuals into agitators of the 'cold war', the Soviet régime destroys to a considerable extent the good which it is doing by the spread of culture and knowledge.

COMMUNISTS AND SHAMANS

The young natives trained in Nikolayevsk-on-Amur, Khabarovsk and Leningrad are to help the Russian administrators in the fight against 'local nationalism' in all tribal areas of the Soviet Far East. Naturally, in the territories of the small Far Eastern peoples the Soviet régime does not fight 'local nationalism' in the same way as it does in areas where there are more developed nationalities. There are no parties or political groups which the communists have to suppress; there is no feudal-

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patriarchal literature which has to be banned, and no cultural societies which have to be closed down because of bourgeois romanticism. Even so the small peoples of the Far East adhere, just as other peoples do, to their national traditions which are closely linked with those primitive religious beliefs usually summed up under the collective name of 'Shamanism'.

Shamanism is fundamentally the belief in good and bad spirits. The exact nature of the belief varies from one tribe to the other. The spirits may be deified animals, they may be ancestors, or they may simply be the forces of nature. Shamanism is not based on an elaborate ecclesiastical organization, but there are, nevertheless, mediators between spirits and ordinary human beings. These mediators are called Shamans. They enjoy a great deal of respect and prestige in the tribal society and this alone would have been sufficient reason to make them 'Enemy Number One' of the Soviet régime in all National Districts and National Areas inhabited by the Far Eastern aborigines.

The régime has charged the Shamans with many crimes, in particular with being dishonest and with consciously deceiving the people. This accusation has been contradicted by many Russian and foreign anthropologists who have had first hand experience of the Far Eastern Shamans. They have made the point that most Shamans sincerely believe in their superior power and are firmly convinced of their ability to cure the sick and to talk to spirits or to deceased relatives. It does not seem that Shamans charged more than moderate fees for their services if they demanded payment at all.[23] According to P. E. Petri, Professor of Ethnology at the Irkutsk University, it was completely erroneous to suggest that the majority of the Shamans were charlatans exploiting the credulity of the natives. For the Shaman, Petri wrote as late as 1928, his vocation constituted a heavy obligation which the spirits had imposed on him. The Shaman knew respite neither by day nor by night. He might at any time be called out and had then to travel dozens of miles in any weather. The Shaman was rarely at home and his household was therefore neglected. As a rule the Shamans were poor and only those living together with their brothers were better off.[24]

According to official Soviet evidence the Shamans engaged in 'mad resistance' to the extension of Soviet power to the north. They disseminated 'provocative rumours' aimed at inciting the tribesmen against the Russians. These charges against the Shamans are reflected in a number of novels which Soviet writers have written on life in the Far East. For example, Syomushkin's novel, *Alitet goes to the Hills*, records the collective resignation of the chairmen of the tribal Soviets in a part of Chukotka, as the result of the evil influences of one important Shaman. These chairmen gathered one day in the tent of the Russian secretary of the Communist Party and surrendered to him their letters of appoint-

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ment. They tried to get rid of these credentials as quickly as possible, because they were believed to be bearers of the evil spirit. The resigning chairmen suggested that the local Shamans should be appointed in their place, as they would be more successful in dealing with the spirits. The Party secretary refused to comply with this request, and, after a great deal of arguing, most of the chairmen agreed to retain their credentials, and to resume their jobs.[25] In the novel, *Where the Sukpai river flows*, by Kimonko, which deals with the life of the Udege people, the Shaman is both anti-Soviet and anti-Russian. He expresses his political philosophy in the following words:—'It is better to be doomed than to go to the Russians. The Russians will make soldiers out of us and destroy us to a man... The Russians and the Udege are different people. The man of the forest has laws of his own. One must abide by these laws.'[26]

The Shamans preserved their influence throughout the 'twenties' and early 'thirties'. They played an important part in the resistance movement against collectivization. In fact, the terms 'Shaman' and 'kulak' became interchangeable in the official Soviet vocabulary. But this is the usual simplification with which communist anti-religious propaganda operates. An official Soviet analysis referring to the social origin of 300 Shamans showed that between 50 and 60 of them came from poor families (bednota) and only 5 to 10 per cent were 'kulak elements'. More discriminating Soviet writers have stated therefore that Shamans whilst belonging to various social groups constituted 'a reactionary counter-revolutionary force taking sides with native kulaks and semi-feudal elements'.[27]

In addition to collectivization the Shamans obstructed practically every measure taken by the Government in the economic, cultural and sanitary fields. The target figures of the economic plans could not be fulfilled because the Shamans dissuaded the natives from fishing and hunting on certain days or from killing certain animals, for instance walrus. Soviet newspapers and journals were boycotted because the Shamans agitated against their dissemination. Also the new schools in the Far North and the 'kultbazy'* suffered from the sabotage of the Shamans. The latter persecuted and threatened the lives of Soviet teachers, particularly those of Russian nationality.[28] They hindered the re-education of the northern tribes to a more healthy and hygienic life, and intimidated people to such an extent that they did not dare even to go near a Soviet medical station.[29]

Although there is likely to be substance in most of these charges, they

* The 'kultbazy' or 'Cultural Stations' are political, cultural, and scientific research centres which the Soviet régime organized in the Far North. 'Cultural Stations' usually include a boarding school, a kindergarten, crèches, a hospital, a first-aid post, a veterinary station, a metereological station and even a museum. Most 'Cultural Stations' later developed into townships. Out of the fifteen 'Cultural Stations' three were founded in the Far East, one for the Koryaks, one for the Lamuts and the third for Chukchi and Eskimos.

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have probably been exaggerated, partly to serve as an excuse for the inefficiency of Soviet administration and partly as a pretext for the anti-Shaman measures taken by the régime. The fight against the Shamans took the same forms as the campaign against other religions of the Soviet Union, ranging from ordinary anti-religious propaganda to administrative terror. The Far Northern cells of the League of Militant Godless were in charge of the former. In view of the complicated character of Shamanism it was no easy affair to combat it and a more thorough picture of its regional diversities had first to be obtained. The League of Militant Godless therefore urged its northern groups to compile a detailed register of the Shamans which was to answer the following questions about each of them: What is the range of activity of the Shaman? Is he a family Shaman or does a larger group of people avail itself of his services? What speciality does he have? Is he a sea-Shaman accompanying fishermen on their expeditions? Is he a tamer of snowstorms? Does he claim to have any influence on the results of hunting? Is he engaged in healing reindeer and people? What sort of cult objects does he possess? Drums? Costumes? Does he hold collective séances? What is his social origin? Detailed information about these and other points was to be sent at least twice a year to the Central Council of Militant Godless, Moscow, Sretenka Street Nr 10.[20]

It does not seem that the League of Militant Godless had many people on the spot with a sufficient knowledge of folklore and anthropology to carry out the 'registration of the Shamans' and it is more than likely that the whole scheme failed. Other anti-Shaman measures were more successful. For instance, pressure was brought to bear on Shamans to give a solemn pledge that they would renounce their activities. Collective statements of several Shamans were even published in the local Press stating that in the past they had been 'wreckers' and 'cheaters.'[21] In other cases where such self-recriminations could not be obtained, Shamans were expelled from their tribal territory or arrested and put on trial. By arresting Shamans the Soviet authorities wanted to show the people that they did not fear their power and that Shamans were not protected by the spirits.

Notwithstanding all these measures of intimidation and persecution the Shamans were still a fairly important factor at the time of the adoption of the Stalin Constitution of 1936. When the constitution was subject to a nationwide discussion the Shamans once more showed their anti-Soviet bias and they did so again during the elections to the Supreme Soviets of the U.S.S.R. and the R.S.F.S.R. in 1937 and 1939 respectively. According to Oleshchuk, one of the leaders of the League of Godless, the Shamans tried 'to falsify the Soviet Constitution, undermine the elections and exploit the electoral campaign for counter-revolutionary aims.'[22]

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538 156 It would appear from Soviet evidence that Shamanism experienced a certain revival during the war. Shamans, it is alleged, cunningly used the temporary absence of young communist educated people from the tribal areas to regain some of their former influence. The novel of the well-known Soviet writer Azhaev, *Far from Moscow*, which refers to conditions in a Nanai village contains, for instance, the following passage: 'He (the Shaman) had lain low for a time but resumed his evil practices when war broke out. He saw his chance to profit from the war by a crafty and insolent device. Many of the Nanai boys of the village had been called to the colours. They wrote letters home from the front, and the Shaman made his "prophecies" by these letters. His clients were mostly old women anxious about the fate of their sons, and he fleeced and fooled them to the top of his bent.'[23]

Soviet novels about post-war conditions in the Far East try to convey the impression that the Shamans have ceased to be figures that are respected and feared. The Shamans of these novels are desperately isolated and universally despised. In one case the Shaman is even an enemy agent whom the Americans have sent from Alaska to provoke 'acts of diversion' among the natives of the Soviet Far East.

Some of the Soviet charges made against the Shamans coincide more or less with the criticism which a Western colonial administrator would direct against the African witch-doctors and juju-men. Western and Soviet administrators will, however, often differ as to the way in which the Shaman and the juju-man are to be fought. In West Africa, though not in East Africa, the fight against the juju-man is no more than a campaign of enlightenment in favour of a more hygienic way of life. In other words it is an aim in itself. The fight against the Shaman in the Soviet Far East and Far North is only a small part of a great struggle which is aimed at crushing every kind of political and religious opposition.

THE FIGHT AGAINST CHRISTIAN MISSIONS

797 779 661 In the Far East and Far North the régime fights religion on 'two fronts'. If the liquidation of Shamanism is one aim of communist anti-religious policy, the total prevention of Christian missionary activities is another.

Christianity has had a certain influence on the small nationalities of the Far East. Missionaries preaching the faith in a God who loves and helps man, have tried with some success to oust from the hearts of the natives that deep-rooted fear which is accompanied by belief in evil spirits. But the work of the missionaries was far from being finished when the Soviet authorities interrupted it. As it often happens in Africa, the superstitions of paganism survived even where the Church made formal converts. Those Lamuts of Kamchatka, for instance, who accepted the

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Christian faith, acquired Christian ikons, but did not want to part with 661
their Shamanist idols. The same can be observed among other Far 779
Eastern and Far Northern aborigines. Many Christian converts wear 797
crosses around their necks, but, at the same time, have idols made of walrus bones and reindeer skin on their belts. Naturally the communists have thrown ridicule on this pagan-Christian dualism, which they have described as 'Shamanism-Orthodoxy', but it is an unavoidable transitory stage in the religious development of any primitive people. Certain sections of the northern tribes of Soviet Russia had been sufficiently Christianized at the time of the establishment of Soviet power to resent the forcible withdrawal of priests, and the removal from forests and ways of crosses which, in the popular belief gave protection against 'devils'. A protest lodged by a group of natives of the Beryozovo district in North-western Siberia was characteristic in this respect. The natives in question wrote a letter complaining that the local communist secretary did not allow them to have a priest. Their actual words were: We can't do without a priest because this is our faith.' ('My ne mozhem bez popa potomu chto vera nasha takaya'.) The letter of protest was printed in 1934 in *Revolyutsiya i Natsionalnosti*, the official organ of the Soviet of Nationalities as a general illustration of the fact that priests still enjoyed confidence in certain parts of the Far North.*

Today most of the Far Eastern tribes are outside the reach of those 661
reduced activities which are still permitted to the Russian Orthodox 779
Church in the U.S.S.R. Whilst churches are tolerated in old towns where their existence is traditional, it has been the consistent policy of the Soviet Government not to allow Christian houses of worship to be erected in the so-called 'socialist cities' which are the products of the Soviet period. In the Far East this applies to Magadan and Komsomolsk, places which among their polyglot population count quite a number of detribalized natives. Members of the two larger nationalities of the Soviet Far East, Yakuts and Buryat-Mongols, are, as far as they are converts to Christianity, in a better position than the members of the smaller tribes. There are churches in the capitals of Yakutia and Buryat-Mongolia and presumably also in other localities of these Republics. These are under the jurisdiction of the Metropolitan of Irkutsk and Chita, whose diocese is larger than the whole of Western Europe.

STALIN – THE SUN

Against Shamanism and Christianity the Soviet régime uses one and the 208
same metaphysical antidote – the Lenin-Stalin cult. In the territories of 773
the Far Eastern tribes this cult has a particularly colourful variant. It takes the form of folk-tales which depict Lenin and Stalin as 'super-

* *Revolyutsiya i Natsionalnosti*, Nr 53, July 1934, pp. 51–57.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

208 773 shamans' fighting and exterminating the 'evil spirits'. Lenin and Stalin appear in these 'folk-tales' as legendary heroes, as eagles liberating the people from the 'bad black kite' (a Tunguz folk-tale), and, in particular, as something approaching 'sun-gods'.

208 773 538 It is understandable that the idea of the sun must have a powerful appeal for peoples living in Arctic and sub-Arctic regions. Everything associated with the sun is good, wonderful and divine. The Soviet régime has made ample use of this. The Soviet literary journal *Zvezda* rightly said that several volumes could be compiled from all the legends, stories, tales and songs in which Lenin and Stalin are depicted as heroes who gave to the people of the North the inextinguishable sun.[34] Typical of this 'sun literature' produced for the Far Eastern aborigines is the Nanai folk-tale – *Sun of the People*; – 'and there came a time when a hero (who, although living far away from the Nanai people, saw and knew everything) took the sun into his hands, and turned it in such a way that its warmest rays shone where it was dark, and where down-trodden peoples were suffering. And they then knew well-being, warmth and happiness. The name of the hero was Lenin. When a great disaster befell the earth – when Lenin died – bad people were pleased. They thought that the sun would stop shedding its light on the people, but their glee was shorter than the space of a minute, because the people's sun was guarded by another hero. He is the nearest friend and companion of Lenin, and his name is Stalin. Nobody can equal the strength of that hero. His eyes see everything that goes on on earth. His ears hear everything that people say. His brain knows all that people think. His heart contains the happiness and the woe of all peoples. The depth of his thought is as deep as the ocean. His voice is heard by all that inhabit the earth. Such is the greatest of the very greatest in the whole world. And he took the sun out of Lenin's hands, and lifted it very high. And since then happiness shines on earth, because it is impossible for the sun not to shine.'[35]

The same motif as in the Nanai tale *The Sun of the People* is to be found, with slight variations, in the poems and tales produced for the benefit of the other small ethnic groups of the Far East and Far North.

Something could be said even in favour of the Soviet 'sun' propaganda in as far as it banned the fear of 'evil spirits'. Unfortunately, the Soviet régime has replaced the fear of the spirits by the fear of its own power and the institutions and bogies which it has created. One of them is the wicked foreigner, always ready to attack the natives with the most ghastly and devastating weapons.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1
Goldi RX3

FAR EASTERN ABORIGINES AND SOVIET FOREIGN POLICY

Destiny has placed the Far Eastern natives into politically and strategically important regions, the mouth of the Amur, the Russian islands of the North-west Pacific, and the territory bordering the Behring Strait. Consequently, the nationalities concerned can only too easily be dragged into the struggle of the big powers for the Pacific. In fact, they have already played their modest part in world politics, and may do so in future. The Nanai, Udege and Nivkhi have participated in Russian-Chinese rivalries. The Udege, Nanai and Ainu have stood between the lines in Russian-Japanese conflicts. The Chukchi, Aleuts and Asiatic Eskimos are involved in the American-Russian antagonism.

The Soviet régime has always been aware of the special position of the small Far Eastern nationalities, and has framed its propaganda accordingly. It has presented itself to the peoples concerned as their saviour rescuing them from 'Chinese merchant capitalism' or from 'Japanese militarism' or from 'American robbery'. The aim of Soviet 'native policy' in the Far East is thus to make the local nationalities anti-Chinese, anti-Japanese or anti-American, as the case may be, and to instil in them a feeling of gratitude towards Russia and the Russians.

Not everything which Russian propagandists tell the natives about other nations is necessarily untrue. It is a fact that Chinese merchants were, for a long time, almost sovereign rulers in the interior of the Russian Pacific province, and exerted a tyrannical overlordship over the aborigines. In some cases the aborigines were reduced to outright serfdom. But even Russian sources have had to admit that the Chinese were interested not merely in profits, but also in spreading their culture. In the absence of any major Russian cultural activities the Chinese ran schools for the aborigines. The latter studied Chinese history, and grew familiar with Chinese institutions. Russia and things Russian were either ignored altogether, or represented in a distorted light.[86] Some of the aborigines completely abandoned their mother tongue, and adopted the Chinese language. The Soviet régime brought about a complete change. It ended the economic exploitation of the natives by Chinese merchants and stopped Chinese cultural propaganda. Cultural domination passed into the hands of the Russians. From a Russian nationalist point of view this was undoubtedly a great success, but whether it is preferable for a Far Eastern people to accept Russian or Chinese civilization is a matter of opinion.

THE NANAI

The most important nationality which the Soviet régime has claimed to have rescued from the Chinese are the Nanai. They are the largest single

1: Kolarz J-4 (no date) 1954 RR1 Siberia
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group of aborigines in the southern part of the Soviet Far East. In the Soviet Union there are between 5,000 and 6,000 Nanai, or Goldy, as they used to be called, while about 1,800 of them live in Manchuria, at the confluence of the Ussuri and Sungari rivers. In the inter-war period this partition of the Nanai between Russia and Manchukuo had a certain political importance. Russia conducted propaganda among the Nanai tribesmen in Manchukuo, and tried to induce them to emigrate and join their brothers on the other side of the border. The Manchukuo Government also did a great deal to obtain the goodwill of the Nanai by associating them with the local administration.

In June 1931, the Soviet régime organized the Nanai National District and the Evenko-Nanai National District. A third National District was founded for the Ulchi or Olchi, a small Far Eastern tribe which is very closely related to the Nanai, and whose number does not exceed 1,000. At the time of their foundation, the three National Districts covered over 60,000 square miles. However, by the end of the First Five-Year Plan, the 'natives' of the three districts found themselves reduced to small minorities. Between 1926 and 1933 alone, the total population in the Nanai and Ulchi Districts was nearly doubled through European colonization, and it increased three times in the Evenko-Nanai National District.

Far from having a sheltered existence in the National Districts, the Nanai hunters and fishermen were thrown into the melting pot of industrialization. In fact, one of the largest industrial centres of the Soviet Far East, the city of Komsomolsk, was built in the midst of former Nanai territory. Komsomolsk has become a magnet attracting the Nanai and regulating their lives. They either work in its industrial undertakings, or have moved to one of the numerous collective farms which supply the 'City of Youth' with vegetables, fruit and dairy products. Many Nanai now have a better command of Russian than of their own language. Their complete absorption by the Russian environment is merely a question of time.

The small Nanai people were greatly exploited for Russia's military effort in the Second World War. As many as 248 Nanai of the Nanai National District and of the Komsomolsk District were awarded military decorations for service on the German front. Some Nanai, including the Nanai poet, Akim Samer, even participated and perished in the Stalingrad battle.

'THE LAST OF THE UDEGE'

The neighbours of the Nanai and their close relatives are the Udege, who live in the Maritime Territory, east of the Amur and Ussuri rivers, in close proximity to the Pacific, particularly in the hinterland of the

1: Kolarz J-4 (no date) 1954 RR1 Siberia
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port Sovetskaya Gavan (previously Imperatorskaya Gavan). Estimates as to the exact number of the Udege differ, they vary between one and two thousand. The official census returns for 1926 recorded 1,347 Udege.

The name 'Udege' became known to the Soviet public through the novel *The Last of the Udege*, by the well-known Soviet writer, Aleksandr Aleksandrovich Fadeev.* The very title of Fadeev's novel has been exploited by Soviet propaganda as a striking example of the solicitude of the Communist Party for the small Far Eastern nationalities, but such an inference is misleading. Fadeev had purposely chosen a title that sounded attractive to the Russian reading public, since it recalled Fenimore Cooper's famous book *The Last of the Mohicans*. Of course, the ideological message of Fadeev is contrary to what Soviet critics have read into the work of the American author. While Fenimore Cooper 'idealized' – in the Soviet view – 'the primitive patriarchal customs of the Red Indians', Fadeev makes the point that there can be no return to the past for the Udege, but only a forward march towards revolution and socialism.[37] *The Last of the Udege* is not primarily concerned with the Udege tribe, although a Udege supporter of the Bolsheviks, named Sarl, is one of Fadeev's principal heroes. Fadeev had planned to write a monumental novel on the Civil War in the Far East, which, when completed, was to comprise as many as six volumes. Only four of them have actually been published. The last came out in 1937. Fadeev seems to have abandoned the idea of completing his work, presumably in view of the re-evaluation which the history of the Civil War in the Far East has undergone since the time of the great purges.

There is another novel which tells us more about the Udege people than the four volumes of Fadeev. It was written by an educated, half-Russianized Udege, Dzhansi Kimonko (1905-1949), who was trained at the Leningrad Institute of the Peoples of the North. After his return to his homeland, he became the chairman of a village council. In his spare time he wrote the history of the Udege people in the form of a novel, *Where the Sukpai River Flows*. The book is remarkable as the first and presumably last step in the development of Udege literature. Its intention is to show the beneficial influence which the Soviet régime exerted on the Udege people, but at the same time it reveals that the Udege have by no means been united in their support of Communist Russia. Kimonko indicated that there had been both a pro-Russian and a pro-Japanese Party among the Udege during the Civil War. One of the Japanese sympathizers was even killed in a violent clash, and so, too, was a wealthy Udege whom Kimonko describes as the 'Udege Czar'.

* Fadeev is the only prominent living Communist who can be considered as a 'Far Easterner'. He was born in the Tver region in European Russia in 1901, but came to the Far East at the age of six. He went to school in Vladivostok, where he joined the Communist Party in 1918. He participated prominently in the Far Eastern Civil War, which is the subject of all his earlier novels.

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Goldi RX3
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177 The Soviet authorities transferred the Udege from the isolated huts
166 which were scattered over a wide area to larger compact settlements. This brought them within the range of medical attention and educational facilities. As a result of this contact with Soviet Russian culture, the young generation of the Udege now speak the Russian language 'almost without any accent'.[38] The next step in the development of the Udege will be that they will forget their own native tongue, and soon 'the last of the Udege' will really have disappeared.

THE NIVKHI

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131 Near the mouth of the Amur is the National District of the Nivkhi.
161 They number just over 4,000, of whom 1,700 live in Northern Sakhalin,
101 and the rest on the Soviet Far Eastern mainland and on three small islands lying off the mouth of the Amur. These islands, Udd, Langr and Kevost, were ignored by the Soviet authorities until 1936, when the famous Russian pilots Chkalov, Baidukov and Belyakov, landed on Udd Island during their trans-polar flight. From that moment the islands became very popular. They were renamed after the three pilots,
[167] and it became almost a Russian patriotic duty to develop and colonize the little archipelago. The Soviet Far Eastern fishing industry established
[228] a plant there, and Russian workers' settlements were built on both Chkalov and Baidukov Islands, which had previously been inhabited exclusively by Nivkhi.

186 The Nivkhi of the Asiatic continent are very conscious of the fact that,
798 together with the Nivkhi of Northern Sakhalin, they form one single people. Accordingly, under pressure of persecution by the Soviet authorities in the late 'twenties', the Shamans of the mainland Nivkhi fled to their kinsmen on Sakhalin. But these Shamans only fell out of the frying-pan into the fire, because of the activities of the local anti-religious fanatics. In 1930 the League of Militant Godless in Northern Sakhalin even destroyed the Nivkhi cemetery in an attempt to cure the 'natives' of their religious prejudices. This action caused considerable unrest among the Nivkhi, who lodged a complaint with the authorities. The latter apparently condemned the 'left-wing excesses' of the Sakhalin atheists.[39]

634 In theory, the Sakhalin Nivkhi live in two National Districts, the
161 'Western Sakhalin National District', and the 'Eastern Sakhalin National District' which, together cover a large part of Northern Sakhalin. In point of fact, both National Districts have been completely fictitious right from the beginning of their existence. The so-called Western Sakhalin National District, for instance, had, in 1933, only a few hundred natives among its 17,000 inhabitants.

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Kamchadal R43
Russian Islands RZ1

KAMCHADALS

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Soviet propaganda has never been very outspoken about the native people of South and Central Kamchatka – the Kamchadals – for a very good reason. Even Soviet historians could hardly claim that friendship between Russians and Kamchadals (or Itelmeny, as they are now called) ever existed in the past. It is a well-established fact that the presence of Russian Cossacks in Kamchatka provoked endless struggles and revolts in the early part of the eighteenth century. While it is true that many Cossacks lost their lives, it is equally undeniable that the first Russian colonizers wiped out the majority of the Kamchatka natives. Only the fact that Kamchatka is rather unsuitable for European colonization saved the Kamchadals from dying out entirely. While their number, which was about 30,000 before the Russian conquest, had dropped to about one-sixth, their relative strength was still fairly important at the end of the nineteenth century. The census of 1897 showed that the Kamchadals then formed over 48 per cent of the population of their homeland. Russian colonization under the Soviet régime changed things rapidly, to the detriment of the Kamchadals. In 1928 they comprised only one-quarter of Kamchatka's population, and in 1939, at the maximum, only 12 per cent.

In absolute figures there were 4,217 Kamchadals in 1926, but only 868 of them were able to speak their national language; the others were, as far as their culture is concerned, completely Russianized. In Petropavlovsk, the capital of Kamchatka, only 69 Kamchadals were counted in the 1926 census.

'ALEUTIAN NATIONAL DISTRICT'

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East of Kamchatka are the Commander Islands, consisting of Behring Island, where the famous explorer, Vitus Behring, died in 1741, and Copper Island (Medny). The two islands now form the 'Aleutian National District', which was set up in 1932. There are not more than 400 Aleutians in the Soviet Union. Practically all of them live in the 'District' which is to impress the 5,800 Aleuts of Alaska.

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Soviet propagandists have always taken great pride in the cultural successes of the 'Aleutian National District'. Its primary claim to fame is the fact that it was the first administrative unit of the Far East which achieved 100 per cent literacy. However, this triumph was not such a remarkable one as it may seem. Two thirds of the Soviet Aleuts were literate as early as 1926 at a time when the other Far Eastern tribes included only between 1 and 10 per cent of literate people. So the Soviet authorities can hardly take credit for an achievement which in all likelihood was

1: Kolarz J-4 (no date) 1954 RR1 Siberia
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brought about by Orthodox Christian missions. Unlike most other peoples of the Soviet Far East the Aleuts of the Commander Islands had been completely Christianized. In the first five years of the Soviet régime there was one church on Bering Island and another one on Medny. By 1934 the church of Bering Island was closed and that of Medny was reported as 'no longer functioning'. An increasing number of voices could be heard, said an official report, urging that the church building should be used for 'cultural needs'.[40] Such 'spontaneous popular movements' for the closing down of churches have often been reported from many parts of Soviet Russia. On the other hand, it is true that the percentage of communist party members in the Aleutian National District is higher than in any other territorial unit, not only in the Far East but in the whole of the U.S.S.R. 35 per cent of the population is organized either in the Communist Party or in the Communist Youth League, according to the latest figures available.

Before the war the local Soviet authorities of the Commander Islands were composed exclusively of natives. However, no undue significance should be attached to this fact, since the Aleuts as a people are half-Russianized, and Russian is the official language in the District. The Aleutian language, which is used by the Soviet Aleuts in their homes and for private conversation, is actually a mixture of Aleutian and Russian, in which Aleutian endings are added to Russian words.[41] Moreover, the inhabitants of the two Commander Islands speak different Aleutian dialects and can converse with each other only in Russian. Russian is also the language in which a small newspaper is printed on Bering Island for the benefit of the Aleuts and the handful of Russians who are all working on the blue fox State farm 'Komodor'. The name of the paper is *The Aleut Star*. Its sub-title shows that the Commander Islands, despite their tiny population, have a highly organized political life. It reads as follows: 'Organ of the Aleutian District Committee of the All-Union Communist Party, the All-Union Leninist Communist Youth League, the District Executive Committee and the District Trade Union Council.'[42]

In the post-war period considerable attention has been paid to the Commander Islands in connection with the 'cold war'. Their population seems to have increased. An official Soviet report of November 1949 said that the islands had several seven-year schools – only two schools had existed before the war – and that many prefabricated houses had been shipped from the continent.[43]

AINU, RUSSIANS AND JAPANESE

When occupying Southern Sakhalin in 1945, the Soviet authorities took charge not only of a large Japanese population, but also of small

1: Kolarz J-4 (no date) 1954 RR1 Siberia
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groups of aborigines. These included over 300 Tunguz, over 100 Nivkhi* and over 1,500 Ainu. Several hundred Ainu also came under Soviet rule through the annexation of the Kurile Islands. The Soviet Government has tried to strengthen its case for the undivided possession of Sakhalin by asserting that only the Russians were able to establish correct relations with the Ainu, while the Japanese oppressed them. The propagandists of the Soviet régime have even alleged that the Czarist Admiral Nevelskoy, who established Russian rule over Sakhalin, did so with the express purpose 'of defending the Ainu against the acts of violence of foreigners'. The Ainu, the propagandists affirm, gave enthusiastic support to the Russians when they landed in Sakhalin in 1853.[46]

Zadornov, a Soviet writer of historical fiction on the Far East, tries to show that the Ainu are almost fanatically pro-Russian. He asserts in his novel *Distant Country* that the Ainu of Southern Sakhalin looked forward eagerly, throughout the first half of the nineteenth century, to the arrival of the Russian liberators. 'We have been waiting for them for many years, we have been waiting for the time when it will be possible to kill the Japanese', Zadornov's Ainu said.[46]

In reality the Ainu of Southern Sakhalin did not seem to be very keen on killing the Japanese or driving them away. In 1875, when the Russian sovereignty over Southern Sakhalin became final, and when the Japanese formally renounced their rights on the island, 800 Sakhalin Ainu left for Hokkaido. They did not return until 1905, after the re-annexation of Karafuto by Japan. For a long time there was a considerable cleavage between these Ainu re-immigrants and their less advanced former fellow-tribesmen, who had never been away from their home island. This cleavage did not disappear until 1933, when all Ainu were granted Japanese citizenship. Originally the Japanese authorities on Karafuto had put five schools at the disposal of the Ainu minority, but when all members of this minority became full Japanese citizens, these schools were abolished, and the Ainu children transferred to Japanese schools.[48]

Since 1945 the Ainu have frequently been mentioned by Soviet propaganda, and their case has become typical of the hypocrisy of Soviet nationalities policy. While several hundred thousand Japanese were expelled from the new Soviet territories, the Ainu were proclaimed 'equal members of the family of Soviet peoples', and at once granted the right to participate in the elections to the Soviet Parliament.[47] Soviet scholars immediately started to study the interesting Ainu people, and the Soviet Academy of Sciences even set up a special branch in Southern

* Under Japanese rule the Tunguz and Nivkhi lived in a native reserve near the town of Shikuka (Poronaysk). Their administrative head was the Karafuto 'reindeer-king', a Yakut, who, with his family, had fled from Soviet territory.

1: Kolarz J-4 (no date) 1954 RR1 Siberia
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TUNGUS RU5
KORYAKS R44

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Sakhalin which was entrusted, among other things, with 'raising the cultural and living standard of its native population', the Ainu in particular.[48]

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Three years after the establishment of Soviet sovereignty over Karafuto Russian propaganda claimed that 'a revival of the ancient, original culture of the Ainu people' was noticeable, and that an 'Ainu national literary language' was in the process of being created.[49]

THE 'NATIONAL AREAS' OF THE EVENI AND KORYAKS

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In 1930 three 'National Areas' were founded in the Far Eastern Territory, one for the Eveni (Lamuts), one for the Koryaks, and one for the Chukchi. The last two are still in existence, but the 'National Area' of the Eveni – Okhotsko-Evensky National Area was the official name – was disbanded after four years. It is doubtful whether the Eveni National Area, which covered 400,000 square miles, ever existed except on paper. The Eveni as a nomad people were not prepared to accept the notion of a territory with stable frontiers and a permanently fixed cultural and political centre. The attempt to erect such a centre, first in Okhotsk, later in Nogayevo, failed.[50] The National Area of the Eveni was formally abolished as a result of the progress which Russian colonization by convicts had made around the Okhotsk Sea in the early 'thirties'. By 1934 the proportion of natives in the population of the National Area had dropped to 40 per cent as against 80 per cent shortly before its foundation.

T K [167] T K [162]

T 634 101 131 161 K 634 101 131 161

The Koryak National Area has been able to survive because the Soviet authorities have not yet succeeded in fully exploiting its riches, and have not, up to now, swamped the area with convicts and other settlers. The Koryak National Area covers the northern part of the Kamchatka peninsula, and the adjacent part of the Asiatic mainland. It is 125,000 square miles in area, and had 11,400 inhabitants in 1926. Out of this total, 61 per cent were then Koryaks, 8·9 per cent Chukchi, 7·1 per cent Kamchadals, and 5·5 per cent Eveni. The Russians accounted for 14·3 per cent.

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The leading Soviet expert on the arctic and sub-arctic regions of the Soviet Far East, M. A. Sergeev, considers that the Koryak National Area is, politically and economically, one of the most important parts of North East Asia, in view of its close proximity to Japan and the U.S.A. Sergeev, who wrote the only available monograph on the Koryak National Area, pointed out that the Area had a considerable part to play in Russian foreign trade, and that it could develop into a territory earning for the whole Soviet Union an appreciable amount of foreign currency.[51] Among the economic assets of the National Area Sergeev lists its riches in fish, reindeer and fur animals, as well as gold and oil. All these items should be used for export, whereas the chief importance

1: Kolarz J-4 (no date) 1954 RR1 Siberia
Tungus RU5
Koryak RY4
Chukchee RY2

of 'Koryakia' for Soviet Far Eastern economy would lie in its extensive coal deposits. Although Sergeev gave very detailed data about the location of the deposits, it does not seem that exploitation has begun on any noteworthy scale.

The development of the Koryak National Area has lagged behind from the Russian communist point of view, not only in the economic, but also in the political sphere. The small Communist Party organization of the National Area, it is true, has issued statements on behalf of the tribesmen, abounding with such terms as 'dictatorship of the proletariat', or 'creation of a culture, national in form and socialist in content', but it does not seem that this has meant very much to the natives. The few communist agitators – in 1932 the Party organization had 120 members, including 'candidate members' – found it extremely difficult to encourage the class struggle among the Koryaks and other local tribes. The appearance in the National Area of State enterprises which were led and directed by Russians and other strangers, must have consolidated, rather than disintegrated, the primitive tribal unity comprising both the rich and the poor. Sergeev himself said that class consciousness, let alone class struggle, was practically absent in the Koryak National Area at the beginning of the 'thirties'. The 'kulaks', the well-to-do reindeer breeders, operated fairly successfully by stirring up hatred of the Russians, and by using 'tribal traditions, religious prejudices and superstitions' in their campaign against the new Soviet order. Soviet class war propaganda was countered by such simple but realistic phrases as 'rich and poor live together', or, 'the rich are feeding the poor'.

CHUKOTKA – THE RUSSIAN COLONY FACING ALASKA

The National Area of the Chukchi occupies the north-eastern tip of Asia facing Alaska, and is bordered by the Arctic Sea on the north, and the Bering Sea on the east and south. Several islands are part of the Chukcha National Area, including the Soviet island of Big Diomede, which is separated by only four miles from the Little Diomede, which belongs to the United States.*

The Soviet nationalities policy has done its best to take advantage of the indisputable geo-political importance of the Chukcha National Area – in short, Chukotka. This policy had to allow, in the first place, for the fact that the natives of Chukotka, both the Chukchi themselves and the Eskimos, who are related to them, had a long tradition of close economic co-operation with their American neighbours, whereas links between Russians and Chukchi had been tenuous.

* The Diomede Islands are also known as Ratmanov Island and Kruzenshtern Island respectively. Admiral Kruzenshtern commanded the first Russian round-the-world voyage and Ratmanov participated in this expedition.

1: Kolarz J-4 (no date) 1954 RR1 Siberia
CHUKCHEE R42

The danger of an americanization of 'Chukotka' was not caused by a deliberate offensive of 'dollar imperialism' against that territory, but was due to the natural inter-dependence of the more highly developed American Alaska and the underdeveloped Russian territories on the western shore of the Bering Strait. *De jure*, Chukotka has been a Russian possession ever since the middle of the seventeenth century, when Cossacks had first penetrated into the land of the Chukchi. *De facto*, however, the Russians did not exert any sovereign rights over either the territory or the territorial waters around the north-eastern tip of Asia. A few Russians who had settled down in Chukotka in the seventeenth century, became completely intermixed with the native population, and quite indistinguishable from them as far as their exterior appearance was concerned. In 1897 there were 300 Russians in Chukotka, and 500 persons officially described as 'russianized natives', who might easily have been Russians turned native. The bulk of the population – the 11,771 Chukchi – lived in complete segregation from the Russians, and had they not been so primitive, it might have been said that they formed a State of their own. Up to the end of the nineteenth century the Chukchi were completely ignorant of Russia. They were even unaware of the existence of a Russian Czar. Nor did the Chukchi ever pay the Russians any 'yasak', the famous fur tribute by which the Siberian peoples implicitly recognized the overlordship of Russia.[52]

In the middle of the nineteenth century the Americans started the exploitation of Russian coastal waters in the Behring Strait, and in the Okhotsk Sea, with its vast abundance of whales. Since the Russians displayed no interest in whaling, the Americans soon became the unchallenged masters of those Russian waters. 'Predatory American whaling' had nearly exhausted the whale stock of the north-western Pacific before the Russians even thought of organizing whaling expeditions of their own.

After the purchase of Alaska by the United States in 1867, American whalers were almost the only civilized people with whom the inhabitants of the Chukot peninsula came into contact. The Americans sold them all the goods they needed, including rifles and ammunition, and later even little boats in which they went to Alaska, trading and intermarrying with Alaskan natives. Both the Chukchi and the Asiatic Eskimos learned English, and some of them travelled with the assistance of American whalers and traders as far as Seattle and San Francisco. Eskimo children from Chukotka went to Alaska to attend mission schools.

A learned Russian traveller to Chukotka, said, as early as 1888, that nearly all Chukchi of the Chukot peninsula, women and children included, understood some English, and that many Chukchi spoke it as

1: Kolarz J-4 (no date) 1954 RR1 Siberia
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well as a 'genuine American'. Gradually the Americans became so familiar to the Chukchi that they used to call all foreigners appearing on their shores 'Americans'.[53]

It was only in 1889 that the Russian Government transformed the land of the Chukchi into a separate administrative unit – the Anadyr District – and it was not before the 'nineties', when the district was under the command of a young, broad-minded District Commissioner, N. L. Gondatti, that Russian rule over the Chukchi became more effective, and attempts were made to counteract American commercial competition. Gondatti ordered regular fairs to be organized for the benefit of the Chukchi, and every native coming to his headquarters was offered a meal and a small present.

The attempts to consolidate Russian rule in Chukotka were, however, checked by the development of Alaska at the beginning of the twentieth century. To the American public the advance of economic and cultural life in Alaska seemed to proceed at too slow a pace. But what the Americans criticised as 'neglect' the Russians praised as the most astonishing progress. In 1909 the Russian scholar Kokhanovsky described the Alaskan town of Nome as 'an outstanding cultural centre'.[54] Obviously nothing in Chukotka, Kamchatka or around the Okhotsk Sea could bear comparison with Nome during its short-lived boom at the beginning of the century. At that time the danger of the United States expanding economically from Alaska into Chukotka was particularly real. Between 1902 and 1912 there existed an American 'North-Eastern Siberian Company', which eagerly propagated the idea of American investments for the exploitation of Chukotka's national riches – gold, iron-ore and graphite. The company was entitled to exploit 60,000 square miles of Russian land. During the ten years of its existence, it established an American trading monopoly on the Russian side of the Bering Strait. About 200 Americans settled more or less permanently in Chukotka. Their solid, well-furnished houses aroused the envy of the few local Russians, and the admiration of the natives. After the Second World War Soviet propaganda gave a very coloured version of the 'American period' in Chukotka's history. To show the far-flung ambitions of American imperialism, the Soviet Press made great play of a very unrealistic private American project to link Alaska with Chukotka by a submarine tunnel, and to build a railway across Northern Siberia.[55] The scheme had caused a minor sensation at the beginning of the century, but it was never taken very seriously.

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THE SOVIETIZATION OF CHUKOTKA

177 Only the Soviet régime transformed Chukotka into a safe Russian possession and held foreign influence at bay. It could not raise Chukotka to a higher cultural and economic level than that of Alaska, but it could at least destroy the old interdependence of the two territories. Even this could be achieved only gradually and incompletely. Friendly direct contact between Alaska's and Chukotka's natives went on for several years after the establishment of Soviet power in the areas east of the Bering Strait. A fairly large number of Chukchi continued to speak some sort of broken English and there are indications that trips between Chukotka and Alaska went on until as late as 1944. Until that year parties of as many as forty people were observed to arrive from Siberia on the Alaskan coast on hunting, fishing and trading expeditions whilst American Eskimos visited Siberia for similar purposes.[56]

538 The transformation of Chukotka into an integral part of the Soviet Empire has been described in detail in Syomushkin's novel *Alitet goes to the Hills*. The book, which has already been quoted, was published in 1947. It was awarded a Stalin Prize for prose, for, from the point of view of the régime, it had the great merit of drawing the attention of a large Russian public to the strategic and political importance of the Chukotka outpost in the 'cold war' against America. Later, a film was produced on the basis of Syomushkin's book, but this was not such a great success.

538 177 196 208 Syomushkin, who had lived eight years in Chukotka, depicted in detail the methods which the Soviet governor employed to achieve the Sovietization of the land of the Chukchi. This man, whom Syomushkin called 'Los', was posted to Chukotka as he might have been to Kursk, Tula, or any other place in Central Russia. He had not the slightest knowledge of the country which he was to administer. He did not know anything about its customs. On the very first day of his arrival in Chukotka, without having gained even a superficial knowledge of local conditions, he stated flatly to his Russian companion: 'We'll make communists and komsomols out of them, mark my words.' And the Soviet administrator did make 'communists' out of the Chukchi, but these 'communists' were unable to understand such words as 'communism', 'Soviet' and 'revolutionary'. His assistant, a young intellectual called Andrey Zhukov, who had studied the customs and languages of the Chukchi, was more sceptical of the transplantation to the Arctic of the Communist Party jargon. When Los asked him to translate the word 'revolutionary' to a Chukcha, Zhukov said: 'I should like to see you translate the word "revolutionary". It is not so easy.' Los was not impressed by this refusal, but assured his subordinate that he would get

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the word translated, and that the Chukchi would learn the word. After gathering some experience in propaganda work among the local people, Los and his assistant drew up a political vocabulary. Here are some of its principal terms:

Communism	The new law
Lenin	The Russian who invented the new law of life
Communist	A man who wishes to remake life
October Revolution Anniversary Celebration	Feast of the big speech-making. (The Chukchi themselves call it 'The Russian Feast'.)
Communist Party Card	Bearer of the good spirit
Petrol	Good Spirit Benzine

The most difficult thing was to translate the word 'State'. How could one explain to the Chukchi that a thing called 'State' had confiscated the reindeer, and that it had become the most important property owner in Chukotka? A Chukcha woman, Rultina, found an adequate and truthful translation of 'State' by suggesting that the State was just a white man. A young Chukcha communist answered to this that the State was not only the Russian administrator, but 'many, many people'.*

Syomushkin's novel showed that the Soviet régime had to make a particularly great display of its efficiency in Chukotka because the Chukchi had an opportunity to compare the respective merits of Russian and American technical skill, even if only in the form of Russian and American matches. At one point of his book Syomushkin said that a pro-American Chukcha settlement had to be bribed by a motor whale boat before it would agree to join the Soviet hunting and fishing co-operative. Russia's position *vis-à-vis* the United States was also strengthened on a larger scale by the building of new settlements opposite Alaska – the Eskimo village Naukan and the administrative base Uelen, which was mainly populated by Chukchi.

The fight against native kulaks and traders was one of the most important activities of the Soviet authorities in Chukotka. The Russian communist officials tried to take control of fur hunting, fur trading and

* The Soviet régime is not the only one trying to teach the peoples of the North the political A.B.C. in a simplified and even over-simplified language. This is how *The Eskimo Book of Knowledge* of the Hudson Bay Company explained to the Eskimos of Labrador the transformation of Canada into a dominion – 'In his wisdom, the King of Britain said to the people of these new countries beyond the seas, his sons: "You have always loved me and the things which I love. You are now grown to full manhood, you have learned the things which I can teach you, you have your families and your children. It is right that you should direct your ways for the benefit of your children. I will appoint a Governor for your lands, but he shall be guided by your wishes. For are not your wishes my wishes?" '

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reindeer breeding. This was a difficult task, since the measures for collectivization were less understood in Chukotka than in most other 'backward' territories of the U.S.S.R. Syomushkin himself had to admit these difficulties when he described the effect of the imprisonment of the 'wicked kulak Alitet' (a Chukcha trader of this name really existed) on the local atmosphere in Chukotka. The local people saw in Alitet's arrest not a measure taken by the champions of the proletariat against the kulaks, but the persecution of a Chukcha by Russians. This is how Syomushkin described the despondency which the 'Alitet case' had created in Chukotka:

'Something amazing had happened on the coast. The Russians had locked Alitet up in a wooden yarang, and he sat there like a seal in a net. The news spread like wildfire, magnified by monstrous rumours. Alitet was in everyone's mouth, in the yarangs of the seal hunters, among the trappers, at meetings on the trail, in the depths of the tundra and wherever men came together in twos or threes.'

'The Shamans said that the Russians were building strong wooden yarangs in order to catch and lock up the Chukchi in them'.

'People dare not live now on the big rivers. The Russians would come down in the summer on their self-going whaleboats, and seize all the reindeer herds in order to do away with them. The reindeer men must not live in big encampments. They must break up into small camps of one or two yarangs, not more. The Russians want to destroy the herds.'[58]

CHUKOTKA DURING THE WAR : ECONOMIC EXPLOITATION AND 'IDEOLOGICAL' CONCESSIONS

The story of Syomushkin's book is carried further in the novel *Swift-moving Reindeer* by Nikolay Shundik. It describes life in Chukotka in the years of the war. The situation is then fundamentally different from that presented in *Alitet goes to the Hills*. The Soviet régime has already won the first round in the fight for Chukotka, the Soviet administration is firmly established, the collective farm system dominates and the young Chukchi are organized in the Komsomol. Many of them, it is true, do not know what the 'Communist Youth League' really stands for* but this does not matter as long as the Chukcha Komsomol members support the régime wholeheartedly and make their contribution to the development of local economy. The emphasis of Shundik's book is on this economic aspect. The Russian officials who figure in his novel are of a quite different type from the Los and Zhukov of Syomushkin. They are no

* Shundik's definition of the Komsomol as put into the mouth of a Chukcha girl is very similar to the definitions of political terms in *Alitet goes to the Hills*; 'The Komsomol is a very big family of young lads and girls. These lads and girls are honest and strong. They do one big job that is necessary to all, namely, to build life anew. The Komsomoltsy do not fear anything, neither an enemy, nor heavy work, nor snowstorm, not even death'.[59]

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longer interested in indoctrinating the Chukchi and explaining to them the essence of communism and the working of Soviet power, they do not even talk about Lenin and Stalin. Their primary objective is to make the Chukchi work harder and to extract from them greater material contributions, particularly in the form of fur supplies.

The Russian officials and their Chukcha collaborators need all their ingenuity to increase the trapping of fur animals. Although the hunters are working under great strain, day and night, they must raise their targets further – under the pretext that the front expects more. To achieve this every collective farmer must look after a larger number of fox-traps. Women, too, are enrolled into the 'fox-hunting brigades'. One Russian administrator even has the idea of forcing reindeer-breeders to give up their herds and devote themselves entirely to hunting. This scheme is tried out but it does not work. It puts an unfair burden on the remaining shepherds and provokes profound dissatisfaction among the Chukchi who for generations have been used to combining fox trapping with reindeer-breeding. As a result less furs are provided than before. The man responsible for this failure, Karaulin, the head of the economic department of a Communist Party District Committee in Chukotka, is dismissed. He had been highly unpopular with the local population and it is interesting that this final removal occurs over an economic problem and not because of the high-handed way in which he had for several years been treating the Chukchi. One of his 'exploits' was the confiscation of a number of charms and idols belonging to an old Chukcha. Such arbitrary actions against helpless natives must have frequently happened in the past, both in Chukotka and in other native territories of the Far North and Far East. Nobody took exception to them in 1935 or 1938 but in the new situation that existed during the Second World War confiscation of idols became a 'left-wing distortion'.

Far away, in Moscow, Stalin gives the example. He has revised the official policy towards religion and concluded an armistice with the Orthodox Church. The Party secretary in Chukotka thinks that somehow he must adapt this new line to the conditions peculiar to North-Eastern Siberia. So he disowns his too zealous subordinate, Karaulin. The confiscated idols and charms are neatly wrapped up and bundled and restored to the owner who, incidentally, is a first-class and generally respected reindeer-breeder the régime can ill afford to antagonize.

CHUKOTKA AND THE 'COLD WAR'

The situation of Chukotka in 1945, as depicted in Shundik's novel is still not quite satisfactory from the Soviet point of view. The author introduces us to such 'hostile elements' as a reindeer-breeder who still refuses to join the kolkhoz, a kulak who, though formally a kolkhoz

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member, continues to be harmful and treacherous, and even an alleged American spy who for a certain period successfully poses as an official of a Soviet trading post. What is even more remarkable is the survival in Chukotka of 'devilish superstitions' but about this point at least a more official testimony is available than Shundik's book. 'In the minds of the Chukotka peoples', says *Pravda* of July 2nd, 1947, 'the old times are still surviving.' 'The Party organization', the newspaper adds, 'must carry out a tremendous cultural and educational work among the local population. Books are needed in the languages of the Chukchi and the Eskimos* to expose the prejudices of the past.'

The main handicap to communist activity in Chukotka has always been the fact that the country is ruled from Khabarovsk, which is as far away from Uelen, the settlement of the Chukchi on the Bering Strait, as Murmansk is from Tiflis. The communist leadership of Khabarovsk has found it extremely difficult, for obvious geographical reasons, to become interested in the special economic problems of the Chukchi, and in their cultural and economic needs. When the Party secretary of the distant National Area went to Khabarovsk in 1947, he had more than one reason for complaint. His most urgent grievances were the following: none of the Khabarovsk communist leaders ever visited Chukotka; the Khabarovsk paper *The Pacific Star* (Tikhookeanskaya Zvezda) rarely reported on events in the territory; no literature on Chukotka was published by the Regional Publishing House, Dalgiz; and the Khabarovsk trade organization, Severotorg, did not supply the goods badly needed by the population, such as tea, tobacco and petrol stoves. The publication of the article in *Pravda* coincided, quite accidentally, with the beginning of the 'cold war', and it constituted a turning point in the official Soviet attitude towards the Chukotka problem. Once again events in Alaska had a bearing on the situation in Chukotka. In view of the importance which Alaska acquired in the defence system of the Western hemisphere, the Soviet authorities paid increased

* The 'Russian or Asiatic Eskimos' live in the coastal areas of the Chukot peninsula. The part of the Chukcha National Area which they inhabit, and which also comprises Wrangel Island and the island Big Diomede, forms a special Chukcha-Eskimo National District of 150,000 square miles. It includes about one-sixth of the National Area. The Soviet régime has attached considerable importance to 'its' Eskimos in view of the large number of their kinsmen living in North America. The first expression of a Soviet 'Eskimo policy' was the organization in 1929 of an 'Eskimo Congress of Soviets'. The Soviet Government has also published pamphlets in Eskimo on basic political topics, as well as on reindeer-breeding, and an experiment was made with an Eskimo wall newspaper.

In 1947 the Soviet authorities decided that the Eskimo language hitherto in use in the U.S.S.R. was based on a 'wrong alphabet', and a 'wrong spelling'. The Minister of Education of the R.S.F.S.R., Alexey Kalashnikov, issued a decree by which the existing Eskimo alphabet was changed, and a more phonetic system of spelling adopted. The changes made it necessary to rewrite the existing Soviet literature in the Eskimo language in accordance with the new spelling rules.** The new Eskimo alphabet was the third one to be introduced by the Soviet régime within less than twenty years.

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attention to Alaska's neighbour, the National Area of the Chukchi. 871
Educational activities, for instance, were greatly extended. At the beginning of 1950 there were as many as 76 schools in the National Area, with more than 3,000 pupils.[81]*

Hand in hand with the development of schools for the children of 208 605
Chukotka has gone the increase of propaganda activities among the adults. The Party secretary of the National Area stated, in May 1952, that Chukotka had as many as 350 'agitators', who had been recruited from among the Chukchi, Eskimos, and other 'natives'. Some of these locally recruited agitators were trained in the Territorial Party School [874]
in Khabarovsk. Others were indoctrinated in Party schools working in the National Area itself. In 1951–52 alone, 900 Party and Komsomol members of Chukotka, including both natives and Russians, studied the 'classics of Marxism-Leninism', and the 'Short History of the All-Union Communist Party'.[82]

All this indoctrination work among the Chukchi is concentrated in the hands of a Russian Party secretary, who shares his political power with the native Chairman of the Executive Committee of the Chukcha National Area. The division is very unequal, for the Party secretary has the powers of the governor of a colony, and the Chairman of the Executive Committee is only a figurehead and a spokesman of native interests. A man called Kukai was chairman just before the war. During the war the job was filled by a graduate of the Leningrad Institute of the Peoples of the North, Otke. He has frequently been mentioned and quoted in the Soviet Press, and there is no other native of the Soviet Far East and Far North who has come into such prominence. Not only does he serve as an example of how the Chukcha people have advanced under the Soviet régime, but he is also used for anti-American propaganda purposes. As a small boy, so his official biography says, Otke was offended by an American merchant, who poured the contents of a whole bag of duck feathers over him. Otke never forgot this episode. Apart from telling the story of the duck feathers, he is credited with making more profound political statements, such as the following: 'From Chukotka to Moscow there are 15,000 kilometres, and to Washington the distance is naturally considerably less. But there are different kinds of distance. There is a very great distance between the thoughts and feelings of people working in Chukotka and the intentions of the people in Washington. In this respect there is no distance whatever between Chukotka and Moscow.'

* The record of the Canadian Government in providing education for the Canadian Indians is at least as good as that of the Soviet government in Chukotka. In 1949, out of the 135,000 Canadian Indians, 23,285 were attending school, that is to say more than one out of six. By comparison the school population in Chukotka is roughly the same, granted that the National Area has about 18,000 inhabitants, which is a very low estimate. The figure includes not only Chukchi and other natives, but also the Russian colonists.

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IMMIGRATION OF RUSSIANS AND RESETTLEMENT OF CHUKCHI

It is impossible to say what is the numerical proportion of Russians to natives in Chukotka. It is a fair assumption, however, that the Russian element has greatly consolidated its position after the end of the Second World War, when something approaching a mass immigration seems to have taken place for the first time. Before the war the Soviet Government had mapped out a big colonization plan for Chukotka, the population of which was supposed to increase to 30,000 by 1938, the end of the Second Five-Year Plan. Luckily for the Chukchi, but very much to the detriment of Russia's strategic interests, this plan failed to materialize. Chukotka's population remained stationary, at about 15,000. A substantial increase of the Russian immigrants after the war may be assumed from the fact that, in 1951, as many as 31 per cent of all deputies of local District and Area Soviets of Chukotka were officially classified as not belonging to the northern peoples.[63] In other words, they were Russian and European colonists and officials. If the council seats were distributed in accordance with the proportionate strength of the nationalities inhabiting Chukotka, an inference which cannot be made with absolute certainty, then almost one third of its population must have been European immigrants. This must be compared to the situation around 1930, when only 3·8 per cent of the population of the National Area consisted of non-natives. 76·3 per cent were Chukchi, and almost 20 per cent were Eskimos and other aborigines.[64]

Apart from Russian immigration, the National Area was the scene of yet another important development after the Second World War – the liquidation of nomadism. The complete triumph of the Soviet system in the Far North will be possible only when the entire population becomes sedentary, and within easy reach of the Communist Party and State organs. This is why active measures have been taken to settle the nomads in the various National Areas of the Soviet Arctic. The task has been a difficult one. It has required considerable financial investments, and a great deal of work on the part of the Soviet authorities.[65] In 1947 Chukotka's first nomadic collective farm engaged in reindeer breeding decided (according to an official statement) 'to settle down completely, and for good'.[66] In the middle of 1952 it was stated that a 'mass resettlement' took place, whereby the Chukchi were moved from their yarangs into 'comfortable houses'. This meant a greater concentration of the Chukchi in a number of larger collective farm settlements, probably for many of those concerned a rather painful operation.[67]

Both the immigration of Russians and the resettlement of the Chukchi have set civilization in Chukotka on a higher level. On the other hand, these two measures are bound to pave the way to the extinction of the

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Chukchi as a separate national group. Accordingly, the forecast of the great Russian anthropologist Professor Bogoraz-Tan with regard to the Chukchi seems to be coming true: 'If civilization comes too near, the Chukchi will probably follow the way of other primitive peoples, and will die out and disappear.'[88]

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IV

RUSSIANS AND YAKUTS

MULTI-NATIONAL YAKUTIA

635 Yakutia covers 14 per cent of the entire surface of the U.S.S.R. It is not only the largest of the sixteen autonomous Republics, but also the largest single territorial unit of the whole of the Soviet Union. It is approximately equal in size to the Republic of India.

162 This vast territory of Yakutia, or the Yakut A.S.S.R., was inhabited by 288,000 people in 1926, and by 400,000 in 1939. No recent data as to the racial composition of Yakutia are available, but in 1926 the Yakuts constituted 82·3 per cent of the entire population, the Evenki and Eveni 4·08 per cent and the Russians 10·43 per cent. The rest were Chukchi, Yukagirs, Chinese and Koreans.

634 563 131 162 The Evenki and Eveni of Yakutia, though numerically and politically unimportant, live scattered over a large part of the country. In the early years of the Soviet régime, little attention was paid to these minority groups. The turning point came in 1930 and 1931, when 'National Districts' were formed for their benefit. Five 'National Districts' were set up for the Evenki. They covered almost one-third of the whole Republic, and stretched from the western borders of Yakutia to the eastern bank of the Lena river. Nine more 'National Districts' were founded in eastern and northern Yakutia for the Eveni. A fifteenth mixed 'National District' was created in the north-eastern border area of Yakutia for Eveni, Chukchi and Yukagirs. The Yukagirs are a paleoasiatic people who, in the seventeenth century, occupied almost the entire north of Yakutia. The northward-pushing Yakuts decimated them, and compressed them into a narrow area.

563 In relation to the minor nationalities of Yakutia, the Yakuts have as a rule played the role of a master race. Even under the Soviet régime they have continued to exercise political control over the other nationalities. In 1933, ten of the fifteen 'National Districts' were administered by Yakut district council chairmen. This shows that the Yakuts occupy a special position among the non-Russian peoples of Siberia, and that they have to be considered apart from the small nationalities of the North and the Far East. They differ from them in their numerical strength and in the higher degree of their social and cultural develop-

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ment. From the point of view of the Communist Party they present an incomparably greater problem than do such peoples as the Chukchi, Nanai and Nivkhi. Belonging to the big family of Turkic peoples, the Yakuts had a fairly developed national consciousness before the October Revolution. Unlike many other small nationalities in the Far East, they do not owe the beginnings of a national culture to the Soviet régime.

THE HISTORICAL BACKGROUND: FROM 1630 TO 1924

The Yakuts have been under some form of Russian rule since about 1630. Russian officials collected 'yasak' in Yakutia, but otherwise they left the country alone. Catherine the Second established Russian domination in a more formal way, but Yakuts enjoyed far-reaching autonomy, even under and after Catherine. Their tribal organization, headed by the 'Toyony', the Yakut princelings, remained untouched, although the Russian Government had to confirm them in their dignity. Right to the end of the nineteenth century, Russia practised, in many ways, a policy of non-intervention in Yakutia in both a good and a bad sense. She did not interfere a great deal with local customs, but she also made no efforts to raise the level of civilization. There was no Russian cultural activity worth mentioning in Yakutia. No attempt at russification was made in practice, although theoretically it was the aim of the Czarist régime. Russian colonization was on a very small scale. Many of the Russian colonists who settled in Yakutia spoke Yakut, some to the extent of forgetting their own tongue.

Nevertheless, the fact remained that the Yakuts were a conquered people, and the Russians the conquerors. At the beginning of the twentieth century the Yakuts became aware of this. Their national consciousness awoke. Yakut newspapers and books were published, and in January 1906 a nationalist organization, the 'Yakut Union' (Soyuz Yakutov) came into existence. The 'Yakut Union' demanded that all land in Yakutia alienated by the State, monasteries, and Russian political exiles should be handed back to the Yakut people. It also urged that Yakuts be appointed to local police posts. The Czarist authorities, in an attempt to subdue the nationalist Yakut agitation, arrested the leaders of the 'Yakut Union', an action which only encouraged further Yakut nationalism. The 'Yakut Union' was a genuine home-grown Yakut movement, entirely unconnected with Russian revolutionary forces. The Bolsheviks, in particular, failed to take up any links with the Yakut nationalists, and even denounced their organization as the instrument of a 'clique of kulaks and tribal aristocrats'.[1]

From its own standpoint the Bolshevik Party continued to handle

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RUSSIANS AND YAKUTS

668 From its own standpoint the Bolshevik Party continued to handle
563 the Yakut problem badly, even after the October Revolution. The first Bolshevik officials who were posted to Yakutia behaved in a tactless and clumsy way, and the Party failed, therefore, to enlist any support from the Yakut people. Stalin's own mouthpiece, *Zhizn Natsionalnostei*, openly admitted this failure. The paper wrote, 'The Soviet Government conducted an incorrect policy with regard to this territory (Yakutia) in 1918. It did not take into account its special climatic and living conditions . . . The Soviet Government did not pay attention to the psychology of the native, particularly to his distrust of the Russian, which was rooted in history. As a result of this mistake, the natives did not understand the nature of Soviet power. They considered it with distrust like everything Russian, and the broad masses kept completely aloof from the efforts to build up the Soviet State'.[3]

175 The absence of any collaboration between the Bolsheviks and even a section of the Yakut people accounted very largely for the fact that civil war in Yakutia dragged on longer than in many other parts of the Soviet Union. As late as September 1922, almost five years after the October Revolution, the 'Whites' recaptured from the 'Reds' the locality of Verkhoyansk in the Yakut Far North. Even this was not the end of the civil war, for in the winter of 1922–23 General Pepelayev launched a new counter-revolutionary movement in Yakutia. He was finally routed in the summer of 1923, and executed in January 1924.

THE GOLD REPUBLIC

489 The Yakut Autonomous Soviet Socialist Republic was founded in
635 October 1922. It was roughly identical with the Yakut Province as it
[441] existed under the Czars. As a political entity, the Yakut Republic has remained very largely a constitutional fiction, not only because Soviet 'autonomy' in general has very little in common with real autonomy, but also for quite specific local reasons. The vastness of Yakutia and the scarceness of communications make it difficult to rule the country effectively from one centre. It is true that the establishment of numerous airlines has greatly improved the situation, and has made government much easier. Nevertheless, for the bringing up of supplies, civil aviation is of little help, and since there are no railways in the Yakut A.S.S.R., river and road transport have still to do the bulk of the work. Both forms of transport in Yakutia have to overcome great difficulties. River navigation means primarily navigation on the river Lena and its tributaries, and the navigation period on the Lena is shorter than on most other Siberian rivers. It lasts not more than 135 days on the sector Vitim-Yakutsk, and even less on the sector stretching from Yakutsk to the Arctic Ocean. As to roads, a great many are impassable in the summer months, since they are covered with mud. In 1937, out of

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the 35 districts of Yakutia, only four had communications with the capital, Yakutsk, all the year round, fourteen districts during ten months, eight during eight months, and the remaining nine only during six to seven months. Although the situation is bound to have improved considerably since 1937, the problem of communications is still a very acute one for the Yakut A.S.S.R.

Practice has shown that it cannot be solved centrally from Yakutsk, but only by an economic decentralization of the Republic. This is exactly what has happened. The northern part of Yakutia is no longer dependent on Yakutsk and the southern districts of the country for supplies, but gravitates towards the Arctic sea-port, Tiksi, which owes its existence to the Chief Administration of the Northern Sea Route (Glavsevmorput), and is one of its principal bases. Glavsevmorput has organized supplies to the northern Yakut districts from Murmansk, instead of via Irkutsk and Yakutsk.

In the south-eastern corner of the country, too, an entire district has gone its own way – the gold-mining region on the upper reaches of the Aldan river. Economically, and from the point of view of its communications, the Aldan region is now at least as closely connected with the Khabarovsk Territory as with the Yakut A.S.S.R. The development of the Aldan region into one of the most important gold-producing areas of the country has greatly altered the economic and social structure of the Yakut A.S.S.R., and has also affected its ethnographic physiognomy. Gold deposits on the Aldan river were discovered near a small place which was then still called 'Nezametnoye' – 'the Unobtrusive'. The discovery led to a gold rush. All sorts of adventurers went to the previously almost uninhabited area. In one year, between 1924 and 1925, the population of the area jumped from 1,200 to 13,000. The newcomers included, apart from Russians, people of many other nationalities, particularly Chinese and Koreans. This 'private initiative' soon came to an end. The Government brought order into the Aldan gold-mining business. A powerful State trust, 'Yakutzoloto', was established. It not only organized and greatly increased gold production, but also developed trade, improved housing, and provided cultural facilities in the area. Besides, Yakutzoloto owned the largest lorry park in the whole country.

The name of the gold centre, 'The Unobtrusive', was no longer appropriate for a place which produced such vast wealth. In April 1939 it was therefore changed into 'Aldan'. Although the Russians are a minority in Yakutia, they constitute the majority of the population in the Aldan area. The Russian town of Aldan, the headquarters of Yakutzoloto, is more and more overshadowing the capital Yakutsk, which is 'only' the headquarters of the Government.

Yakutzoloto is not the only big State capitalist enterprise whose wide

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655 Yakutzoloto is not the only big State capitalist enterprise whose wide
502 powers make Yakut autonomy an illusion. There are others in charge of gold, timber, fishing, and the fur trade, and there are, above all, the powerful organizations which look after navigation in the Lena basin. The latter operate in complete independence of the Government in Yakutsk, which does not own a single one of the ships which link one Yakut locality with another.* The navigation is in the hands of three enterprises; one is the 'Lengospar' which belongs to the Ministry for Water Transport in Moscow; the second is 'Lenzolotoflot' which is run by the State trust exploiting the Lena goldfields, and the third is the Chief Administration of the Northern Sea Route.

168 The development of goldmining and transport under the Soviet régime created a small native proletariat. By 1936 there were 1,845 Yakut miners and industrial workers. They constituted only 4·19 per cent of the entire working class in the country, whilst the Russians supplied the bulk of it (70 per cent), and Koreans and Chinese a very substantial minority (15 per cent).[3]

167 Russian colonization in Yakutia is expanding, not only in the Aldan area, but also in Central Yakutia, where it is spreading out in the valley of the Vilyuy, a tributary of the Lena river, particularly in connection with the development of coal mines.[4] Northern Yakutia, too, has become more attractive for Russian colonists through the work of Glavsevmorput. It has old Russian settlements such as Ust Yansk,
103 Russkoye Ustye, and Nizhne-Kolymsk, which are situated at the mouth of the rivers Yana, Indigirka and Kolyma respectively. With the development of Arctic and river navigation, these places have become more important. Other ports have been founded as well, and Russians are needed to keep them going.

YAKUT NATIONALISM

565 Today Yakutia has a new aristocracy, the managers of the gold trusts
186 and transport undertakings, and the Stakhanovites of the gold mines and power stations, and of the new tanning and leather goods factories.

641 * Although all matters concerning mining, heavy industry and river transport are excluded from the competence of the Yakut Government the latter is, nevertheless, an exorbitantly large bureaucratic body considering the smallness of the population of the country. According to article 42 of the Constitution of Yakutia the Council of Ministers consisted until 1953 of a prime minister, several deputy prime ministers, the chairman of the planning commission, 13 ministers in charge of internal affairs, State security, health protection, municipal economy, timber industry, local industry, food industry, education, social welfare, trade, finance and justice and seven heads of 'administrative boards'. The latter were in charge of highways, cinemas, automobile transport, local fuel industry, industry of building material, cultural and educational institutions and matters concerning the arts. The whole Council of Ministers had at least 25 members, which is more than most governments of Western Europe. The same ministries and 'administrative boards' existed in all Autonomous Soviet Socialist Republics irrespective of the size of their population. In 1953 the number of ministers was slightly reduced.

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Most, but not all, of the members of the new upper-class are Russians. To put the new aristocracy firmly into the saddle, the old one, which was Yakut, had to be destroyed, and so had its ideological foundations, Yakut 'bourgeois nationalism'.

Until 1928, the Soviet authorities of Yakutia were rather liberal. They tolerated even a Yakut cultural organization, 'Sakha Omuk' (The Yakut People), which was founded in 1921; and a nationalist literary journal, *Cholbon* (The Morning Star). In its first issue the journal stated that it would deal with Yakut themes to the exclusion of everything else. The editors of *Cholbon*, Leontev and Sofronov, meant what they said. In the middle of the 'twenties' they still had the courage to refuse the publication of a poem carrying the title 'Lenin is alive'. The Soviet authorities had to reconcile themselves to the fact that out of the five or six Yakut writers known in the years 1922 to 1925, only one could be described as 'proletarian'. All the others were 'nationalists'. The most important of the latter was the poet and ethnographer, Kulakovsky.

The essence of Kulakovsky's political philosophy is contained in a poem, 'The Dream of the Shaman'. Speaking through the medium of a Shaman, Kulakovsky warned his people that the 'new-comers', the Bolsheviks, would bring doom to the Yakuts, and would make slaves of them. Only by acquiring modern science and technique could they survive the struggle for their existence. Kulakovsky was an enemy of distinction, who commanded a great deal of respect from his communist opponents. The journal *Revolyutsionny Vostok*, that ardent advocate for the Sovietization of the East, had to admit that Kulakovsky hated the Russians with the sophisticated hatred of an intellectual, and not with that of a petty bourgeois.[5]

Politically more important was the writer Altan Saryn, who preached pan-Turkism among the Yakuts. He advocated the purge of Russian expressions from the Yakut language, and their replacement by terms borrowed from other Turkic languages. No wonder that Saryn soon became the principal antagonist of Bolshevism in Yakutia. His conception of Yakut culture ('Sarynovshchina'), was branded as the ideology of the tribal aristocracy.

In 1928, the Central Committee of the All-Union Communist Party intervened, and imposed on Yakutia the same irreconcilable Bolshevik attitude towards nationalism as was adopted all over the U.S.S.R. The local party leaders of Yakutia, the members of the 'Provincial Committee' ('Obkom') were deposed. In a stiff statement dated August 8th, 1928, the Central Committee enumerated the political mistakes which the Yakut communists had up to then committed, their alleged friendliness towards kulaks and 'toyony', their support for nationalist intellectuals who had been given important posts, and their neglect of the small nationalities of Yakutia.

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000 small nationalities of Yakutia.

665 The new men who took over, following the Central Committee
661 statement, set about their task energetically. They expelled from the territory of the Yakut A.S.S.R. those whom they considered the 'most fanatical representatives' of the Yakut national intelligentsia. They disbanded the 'Sakha Omuk' organization, and reorganized the journal, *Cholbon*. On the economic front, collectivization was carried out in the face of considerable resistance and sabotage.

661 The final act of this large-scale offensive which the Soviet Government
563 conducted against its enemies in Yakutia took place thousands of
653 miles away from the Lena River along another important waterway
461 of the U.S.S.R., the Baltic-White Sea Canal. Among the workers build-
656 ing that canal there was a considerable number of Yakut deportees.
466 They were kept apart from the Russian convicts employed on the construction site, and, together with a large number of other Asiatics, formed special 'National Minority Brigades'. They were also billeted in special 'National Minority Barracks', the sanitary conditions of which were 'beneath criticism', even according to the Soviet standard book on the canal.[6] This book, to which a large number of eminent Soviet writers contributed, gives a rather contradictory evaluation of the work performed by national minorities, of which only Yakuts, Uzbeks, Tadzhiks and Bashkirs are expressly mentioned. First they are branded with unparalleled idleness, and later they are praised for performing the most herculean tasks. In one case the 'national minority heroes' are said to have worked 38 hours without a stop, and in another case of emergency even as many as 50 hours.

668 But whether the Yakuts and the other members of the so-called 'Canal
661 Army' were idlers or record-breakers has little importance. What became known of life and work in the National Minority Barracks of the Baltic-White Sea Canal was bound to deter many would-be opponents of the régime in the minority territories themselves, even as far away as Yakutia. Nevertheless, opposition by no means died down entirely, and the big purge of 1937 affected the Yakut A.S.S.R. as much as any other autonomous Republic.

According to the official version, 'Japano-German spies, bukharinist-trotzkyite diversionists and bourgeois nationalists' were its victims. Such elements were discovered in all important State offices, in the Council of People's Commissars, in the State Planning Commission, and in the office of the Yakut plenipotentiary of the Ministry of Supplies, which is responsible for the compulsory deliveries by farmers, cattlebreeders and fishermen.[7]

668 Even the 1937 purge did not finally dispose of bourgeois nationalism.
661 Nationalist tendencies made themselves felt once again during the Second
186 World War, when Soviet cultural policy for a moment seemed to be

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inspired by greater magnanimity. Yakut communists used what appeared 668
to be a new situation by reviving the memory of the two outstanding 661
Yakut intellectuals already mentioned, Kulakovsky and Sofronov. 186
Despite their anti-Bolshevik bias, they were, so to speak, smuggled back into the intellectual patrimony of the Yakut people, and rehabilitated.

THE BASHARIN INCIDENT

In 1944 a Yakut historian, Georgy Prokopovich Basharin, published a 538
book in Yakutsk which presented Kulakovsky, Sofronov, and another 829
pioneer of Yakut literature, Neustroev, as progressive people who were spiritually related to such Russian revolutionary democrats as Belinsky and Chernyshevsky. Basharin gave a positive evaluation of the literary work of the three 'enlighteners', as he called them, and considered their nationalist concept as a healthy reaction to the colonial oppression of Czarism. During several years it seemed as if this reinterpretation of Kulakovsky was officially accepted. For a long time no protest against Basharin's thesis came from higher quarters. In 1950 a rehabilitation of Kulakovsky was even incorporated in a book on Russian-Yakut relations, published by the Yakut branch of the Soviet Academy of Sciences.

It was not until December 1951 that Moscow told the Yakut intel- 558
ligentsia that they must drop the wrong appraisal of their literary 626
heritage, and must revert to an attitude of Bolshevik intransigence. On 538
December 10th, 1951 *Pravda* published an article, 'For a correct elucidation of Yakut literature', which did not mean very much to the readers of the Bolshevik central organ in European Russia, but which was, from the Yakut point of view, a new landmark in Soviet cultural policy. The article was signed by three people who included the well-known Russian poet, Alexey Surkov, and the expert on Turkic literature in the Union of Soviet Writers, Lutsyan K. Klimovich. The three took Basharin heavily to task for his courageous book on the founders of Yakut literature. They charged him with justifying the bourgeois-nationalist views of Kulakovsky, with an uncritical attitude towards his 'fantasies', and with hushing up his reactionary character. The whole thesis put forward by Basharin, so *Pravda* pointed out, was 'clearly erroneous and anti-Marxist'.[8] Not only was the *Pravda* article on Yakut literature one more example of how Moscow interferes with cultural life of the non-Russian nationalities, but it also acquired particular importance in view of the personality involved. By no stretch of imagination could Basharin be described as a 'class enemy'. He was the son of a poor peasant, and spent his entire conscious life in the service of the Soviet régime. First, he was active in the Komsomol, and later in the

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Party. Until the publication of the *Pravda* article of December 10th, 1951, his life-story reflected only the positive sides of Soviet nationalities policy in Yakutia. Under the Czarist régime he would have become nothing more than a hunter in the Yakutian taiga, but under the Soviet régime he was able to study at first in one of the new Soviet village schools,* later in the Yakut Pedagogical Institute, and finally in Moscow. In 1943 he became 'Candidate of Historical Science', and in 1950 'Doctor of Historical Science'.[9] There are hundreds of members of small nationalities who went a way similar to that of Basharin. They accumulated knowledge, acquired academic degrees, and became famous, not only in their homeland but also all over the Soviet Union. Then, suddenly, there came a point in their career when they felt the full oppressive weight of the communist totalitarian régime. This is exactly what happened in the case of Basharin. This Yakut communist had digressed from the official ideological line. Although belonging to a new Soviet generation, he had produced a work which was fundamentally nationalistic in Soviet eyes. Such a strange phenomenon had to be denounced in *Pravda*. But whether such a denunciation can stifle the desire for independent thinking and research is a different matter.

'SHORTCOMINGS' AND ACHIEVEMENTS OF YAKUT SOVIET LITERATURE

The *Pravda* article was not written for the sole purpose of settling the 'Basharin incident'. It also drew attention to 'major errors and defects' in Yakutia's contemporary literary output. One of the offences of the Yakut writers consisted in 'an uncritical utilisation of archaic images from ancient folklore to illuminate the Soviet reality of today'. This was a roundabout way of admitting that Yakut folklore was falsified in order to fall in with certain requirements of political propaganda. How this is done in practice was once explained by the Yakut writer, Kulachikov-Ellyay. According to him, some poets simply took an old Yakut national song and made it topical by inserting the word 'kolkhoz' and the 'new names of heroes'.[10] Such manipulations probably account, in part, for the large number of 'folksongs' in honour of Stalin and the Soviet régime in the languages of all Soviet nationalities.

Both the Yakut Communist Party organization and the Union of Soviet Writers of Yakutia repeatedly dealt with the ideological shortcomings of Yakut literature. A conference which the Writers' Union

* In 1947 Yakutia had 580 schools in which over 61,000 children were educated. This included 141 seven-year schools, and 28 secondary schools. In the school year 1916-17 there were only 173 schools with 4,460 children (*Uchitelskaya Gazeta*, June 28th, 1947). In 1952 almost two-fifths of the teachers employed in Yakutia's schools were Russians. (*Uchitelskaya Gazeta*, June 28th, 1952).

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held in Yakutsk in 1948 denounced the uncritical attitude which some of the Yakut writers were said to have assumed towards the 'survivals of the past', by professing mysticism, inserting 'religious exorcism into their works and indulging in romantic adoration before the River Lena'. 538 563 656 626

However much the Soviet régime persecuted ideological heresies among Yakut writers and poets, it is a fact that Yakut literature has made great progress, even if it is primarily a Soviet literature in the Yakut language. In the first 25 years of the Yakut A.S.S.R., 3,000 different textbooks and other books were printed in the Yakut language, Yakut state publishing houses turned out many translations from the Russian classics, and a small number of translations from foreign authors. On the other hand, a large proportion of the books printed in Yakutia were worthless from a literary point of view because they consisted of communist propaganda material. The Yakut language is the only one among the languages of the smaller Soviet nationalities into which Stalin's 'Complete Works' are translated. As a rule they are published only in the languages of the Union Republics.

The Soviet literature which is published in Yakut is written in a language which has become to no small degree russianized. This is not entirely the work of the Soviet régime. As many as 2,400 Russian words had penetrated into the Yakut language by the end of the nineteenth century.[11] Under communist rule, it is true, the Russian language gained further ground. Today, every seventh word used in contemporary Yakut literature is a Russian one, quite apart from the influence of Russian on the syntax of Yakut. In Yakut newspapers, Russian words form 30 per cent of the vocabulary used. 177 191

RUSSIAN CULTURAL SUPREMACY

The gradual russification of the Yakut language is accompanied by the imposition and propagation of Russian cultural supremacy in the Yakut A.S.S.R. Russian cultural propaganda reached its culmination point in 1950, when the Yakut branch of the All-Union Academy of Sciences published an important work of scholarship, already mentioned. Its full title is *The Progressive influence of the great Russian nation on the development of the Yakut people.* It is interesting that, already, the title of this book expresses a discriminatory patronizing attitude towards the Yakuts. It not only calls the Russians 'great', but refers to them as 'nation' ('natsiya'), whilst the Yakuts are only a 'people' ('narod'). The chapter headings are even more revealing. Here are some of them: 'The great Russian People – the elder brother of the Yakut People'; 'The positive results of Russian colonization in connection with the accession of Yakutia to the Russian State'; 'Russian peasants as pioneers of agriculture among Yakuts'; 'The help of the Russian 177 563 538

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177 563 538 People in the industrialization of Soviet Yakutia'; 'The leading role of the Russian People in the development of Yakutia's means of communications'; 'The progressive influence of the Russian People on the development of musical culture of the Yakut People.'[13] And so it goes on, until tribute is paid to the Russian contribution in every branch of economy and culture. The characteristic feature of the symposium is that its authors, mostly Yakuts and Russians living in Yakutia, gloss over the negative aspects of Czarist and Russian rule in general. Even the few miserable schools which the Czarist régime had established in Yakutia are hailed as a positive achievement, because the Russian language, and the 'progressive ideas of Russian pedagogical science', penetrated with their help to the Yakuts. The Soviet régime also takes the credit for the work of the orthodox missions in Yakutia, and a few missionaries, who were the first to create an alphabet for the Yakut language, are mentioned in the symposium.

It is tempting to contrast the harmonious picture of Yakut-Russian relations contained in the work of the Yakut Branch of the Soviet Academy with statements which official Soviet organs had previously made on the same subject. This is what the organ of the People's Commissariat of Nationalities wrote in an article published on August 13th, 1921: 'The Yakuts know the Russians as conquerors, as corrupt chinovniks, as merchants and exploiters, as exiled criminals who ridiculed all their best feelings and committed acts of violence, and as neighbouring peasants who oppressed them. Only the political exiles left a good memory.'[13] This statement probably went too far towards the other extreme, although it may be taken for granted that the Yakuts had not been very appreciative of the blessings of Russian rule in the past. Yakut popular sayings, as collected by Soviet folklore experts, even betray a certain hostile scepticism towards the Russians. These include the following: 'Am I a Tunguz nomad or a Russian passer-by that you do not believe me?'; or 'Even on his death-bed will a Russian stretch out his hand for the repayment of a debt.'[14]

Despite everything, a great deal of what Soviet propagandists have said after the Second World War about the civilizing role of the Russians in Yakutia is historically true, but no enlightened colonial power would make such play of the backwardness of a colonial people and force that people to admit it. The symposium on the progressive Russian influence has a certain similarity with literature which the colonial government of the Belgian Congo publishes for the 'natives'. There one can read phrases such as, 'the Belgians, our civilizers, our benefactors'. It is difficult to find any similar exhibitions of enforced, undignified servility towards the European colonizers, either in British or in French West Africa.

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1. THE MONGOL PEOPLE'S REPUBLIC IN RELATION TO CHINA

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European Kalmuck RF4

V

THE SOVIET RÉGIME AND THE MONGOLS

RM
648 In the Russian Far East, the Soviet Government is confronted not only
186 with Chinese, Japanese, Korean and American influences; she has to face yet two other opponents, encountered nowhere else in the U.S.S.R. These are pan-Mongolism and Buddhism.

This pan-Mongol-Buddhist 'danger' must be dealt with in two territories which are closely interconnected, but which enjoy different political status. One is an Autonomous Socialist Soviet Republic within the Soviet Union – Buryat-Mongolia – while the other is formally independent and only *de facto* a Soviet territory – The People's Republic of Mongolia (M.P.R.).

I. THE BURYAT-MONGOL AUTONOMOUS REPUBLIC

162 The Buryat-Mongols comprise only a quarter of a million people.
563 Nevertheless, they occupy a unique place both in Soviet Far Eastern policy and in Soviet nationalities' policy as a whole. They are the only people of the U.S.S.R. belonging to the Mongol group by both race and language, and they are also the only Buddhist people of the Soviet Empire.*

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563 * In the inter-war period there was another Buddhist and Mongol people in the Soviet Union, the Kalmucks, but they have been eliminated from the ethnographical map of the U.S.S.R. Groups of Kalmucks may still live scattered about Russia, but they no longer have any place in the cultural and political planning of the Soviet Government. It stands to reason that the abolition of the Kalmuck A.S.S.R. in 1943 and the deportation of the Kalmuck people must have made a strong impression on the Buryat-Mongols and the Khalka-Mongols of the Mongol People's Republic. There used to be a certain amount of contact between Kalmucks, Buryats and Khalka-Mongols, and during several years the Soviet régime itself promoted their cultural co-operation. In January 1931, representatives of the intelligentsia of the three Mongol nationalities held a meeting in Moscow that was officially described as 'First Cultural Conference of Mongol Peoples'. It dealt with the reform of Mongol spelling on the basis of the Latin alphabet, and with the co-ordination of the scientific terminology of all three languages.[1] Later the Soviet authorities were less eager to develop cultural intercourse between Kalmucks and Buryats or between Kalmucks and the M.P.R. in view of the pan-Mongol danger. Nevertheless, it seems likely that Buryat and Khalka-Mongol intellectuals continued to be interested in the destinies of Kalmuckia.

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563 The Buryats have played a part in Russian policy which is quite out
648 of proportion to their numerical strength. The Czarist Government thought that through their Buddhist connections, they might assist Russia to establish a protectorate over Tibet. Under the Soviet régime their mission in foreign policy consisted in assisting Russia to exercise efficient domination over Outer Mongolia, the Mongol People's Republic (M.P.R.). They did in fact supply a large number of agents for the bolshevization of that country. At a time when Mongolia itself was lacking qualified personnel, the Buryats provided the staff for the leading cultural and economic institutions of the M.P.R., particularly the Montsenkoop, the Mongol State trade monopoly, and the Mongoltrans, the Soviet controlled transport company of the 'People's Republic'. In the Mongol Army the Buryats distinguished themselves as officers and instructors.

167 The fate of the Buryats provides the most outstanding example of the
177 success of Russian colonization. Although living thousands of miles from the centres of Russian civilization, the Buryats have been split up into groups by wedges of Russian colonists, in the same way as the peoples of the Volga valley were split up. This Russian colonization, which took place in the eighteenth and early nineteenth century, resulted in pressing the Buryats away from the important rivers of their homeland, such as the Lena, Angara, Selenga and Ingoda. It was particularly fateful for the Buryats that the Russians dislodged them in 1799 from both banks of the Ingoda River. This operation not only narrowed down the Buryat 'living space', but also created a small Buryat enclave near Chita, cut off from the bulk of the Buryat people. Russian colonization and Russian policy split the Buryats not only geographically, but also culturally. The Eastern Buryats remained Buddhists and were less exposed to Russian cultural influences, while the Western Buryats became largely christianized and russianized.

634 In the years following the October Revolution, Western and Eastern
692 Buryats were also politically separated. The former were incorporated into Soviet Russia, the latter into the Far Eastern Republic. The Buryat
563 lake, Lake Baikal, became the frontier between the two. The Far Eastern Republic attached considerable importance to the Buryat question, perhaps less for reasons of principle than out of fear that the Buryats could become a tool of Japanese policy. Five articles of the constitution of that Soviet satellite republic dealt with the special legal position which the Buryats were to occupy. Article 116 said, 'The entire area inhabited by the Buryat-Mongols shall form a special territory under the name of "Autonomous Buryat-Mongol Province".' Article 118 guaranteed to the Buryats the right to establish courts of justice as well as economic, cultural and administrative institutions in their territory.

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Article 119 provided for the formation of a Buryat-Mongol National Assembly entitled to legislate on local matters. 634 642

The communists of Russia proper were less eager than their Far Eastern comrades to grant the Buryats a special status. The communist organization of Irkutsk which was most directly concerned with the problem expressed its outright hostility to Buryat autonomy. The Irkutsk communists argued that the Buryats were not sufficiently civilized to have an autonomous administration of their own. The spokesman of the Buryat communists, Mikhei Nikolayevich Yerbanov, denounced this chauvinistic attitude and complained to the People's Commissar for Nationalities, Stalin. Stalin ruled that an Autonomous Buryat Province was to be organized in Eastern Siberia, in the Irkutsk region, despite the resistance of the local Russian communists. Consequently, during a certain period there were two Buryat autonomous territories, one belonging to the Far Eastern Republic, and the other being part of the Russian Soviet Federation. In 1923 the two territories were amalgamated into one single Autonomous Republic. To draw the frontiers of the Buryat-Mongol A.S.S.R. was no easy task. Whichever way Buryat-Mongolia's frontiers were to be fixed, the Republic was bound to have a Russian majority, in view of the successful Russian colonization which had been carried out in the Buryat country. 563 635

SOVIET POWER AND BUDDHISM

The real problems of Soviet policy in Buryatia started only after the framework – the Autonomous Republic – had been created. Should the Soviet régime treat Buddhism in the same way that Christianity had been treated? Could Buddhism and Communism be reconciled with each other? What should the Party do with the Buddhist monasteries? These, and similar questions faced the régime in the early 'twenties'. The Communist Party and the Soviet Government found it difficult to answer them, and vaccilated in their Buryat policy between an attitude of relative liberalism and one of utter intolerance. 659

In the 'twenties', the Soviet Government was at first inclined to make use of the Buryats as a revolutionary, or at least 'progressive', vanguard of the entire Buddhist world. In the winter of 1926-27 when the situation in China was heading for a crisis, the Soviet Government granted permission for the holding of a 'Congress of Soviet Buddhists' in Moscow, in which most of the participants were Buryats. The Congress produced an 'Appeal to the Buddhists of Mongolia, Tibet and India', calling on them 'to support with all their power the fight for the emancipation of the Chinese people'.[2] 563 208

In Buryat-Mongolia itself the local Soviet administration was allowed, for a time, to proceed cautiously in religious questions. The local 659

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659 474 People's Commissar of Agriculture, Oshirov, organized the Buddhist priests, the lamas, into co-operatives. His idea that the lamas could be gradually integrated into the new socialist order was widely shared. Buryat cultural workers, in particular, were eager to conserve Buddhist monasteries and religious music. To put the co-operation between communists and Buddhists on solid foundations, a number of Buryat intellectuals conceived the theory of 'Neo-Buddhism', which the Soviet Government at first viewed rather benevolently.

The chief theoreticians of Neo-Buddhism were the head of the Buddhist community in Buryatia, Agvan Dordzhiev, and the Buryat Professor Zhamtsarano. They alleged that Buddhism was actually a 'religion of atheism'. There was no difference between the Buddhist ideas on the emancipation of mankind and those professed by Marx and Lenin. Gautama Buddha was, in fact, a forerunner of Leninist materialism.[3]

659 798 From about 1929 onwards, the Neo-Buddhist theories were officially described as 'most harmful', since they served 'to obliterate the class-consciousness of the revolutionary masses'.[4] The régime stopped discriminating between Buddhism and other religious creeds, and launched an anti-religious campaign of great violence throughout Buryat-Mongolia. A small but active group of 'militant godless' communists, by terrorist means, tried to prevent the celebration of Buddhist holidays, interfered with religious processions by deliberate provocations, and by administrative measures, achieved the closing of Buddhist monasteries. All this brought such discredit to the anti-religious cause that the Buryat organization of the League of Militant Godless had to be disbanded in 1930.[5] Anti-religious propaganda was then inactive until about 1937.

In that year a new anti-religious campaign started in connection with misunderstandings which the new Stalin constitution had caused, not only among Buddhist believers, but also among other religious groups of the Soviet Union. Until the coming into force of the new constitution, [641] the lamas had been disfranchised, and the fact that voting rights were restored to them was, therefore, bound to create a certain optimism. The lamas believed, indeed, for a while that there was a fundamental change in Soviet policy towards religion. Their illusions were soon destroyed by the energetic measures which the régime took against them.

Nevertheless, on the eve of the Second World War, Buddhism in the B.M.A.S.S.R. was still a factor with which the Communist Party had to reckon. This is what one of the leaders of the League of Militant Godless [793] wrote at the beginning of 1939: 'In Buryat-Mongolia the lamas have still considerable influence on the masses. It suffices to say that even some pedagogues and medical workers seek the advice of lamas in their capacity of specialists in "Tibetan Medicine".'[6]

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PAN-MONGOLISM – REAL AND ALLEGED

Closely connected with the problem of Buddhism is that of Buryat pan-Mongolism. The Buryats had been notorious for their inclination towards pan-Mongol tendencies ever since the Japanese victory in the Russian-Japanese War of 1904-5. In the Civil War many Buryats played a counter-revolutionary role; they sided with the Japanese interventionists who had proclaimed the idea of a 'Greater Mongol Empire'. The 'white guard' puppets of the Japanese, Ataman Semyonov and General Ungern-Sternberg, were able to recruit quite a number of Buryat volunteers for their detachments. A pan-Mongol congress, which was summoned on Japanese initiative in February 1919 in the town of Chita, also enjoyed a considerable measure of Buryat support. The congress demanded that all Russian colonists living east of Lake Baikal should be expelled. It also elected a delegation which was to submit to the Peace Conference in Paris a project for a Greater Mongol State consisting of various Russian and Chinese territories. When the Bolsheviks advanced into the land of the Buryats, and the Greater Mongolia project collapsed, certain sections of the Buryat people propagated the idea of emigration to Manchuria. There the Buryats were to wait until the plan of a Greater Mongolia could be resumed with Japanese help.[1]

Under the Soviet régime pan-Mongol tendencies made themselves felt throughout the 'twenties' and 'thirties'. Communist publications frequently complained about 'bourgeois-nationalist' and 'national-democratic' tendencies among the Buryats, and about the display of pictures of Genghis Khan. The nationalist pan-Mongolist intelligentsia was even able to delay the introduction into Buryatia of the Latin alphabet, which scored its final victory only in 1933, after having been officially introduced in 1931. The Buryat Party secretary, Yerbanov, thought it wise not to provoke the nationalists too much. He sent their representatives occasionally to prison, but did not launch a large-scale anti-nationalist offensive. When in 1933 'local nationalism' was declared in both the Ukraine and Byelorussia to be the 'main danger on the national front', Yerbanov made a statement that this change of policy did not apply to Buryat-Mongolia. There, 'Great Russian chauvinism' would continue to remain the main danger. The Bolshevik Politbureau in Moscow seemed to be satisfied with Yerbanov and his policy. In January 1936 he was invited to the capital as head of a Buryat-Mongol delegation which was received in the Kremlin by Stalin, Molotov, Voroshilov and other Soviet leaders. Molotov delivered a big speech on this occasion; he praised the economic and cultural advance of Buryat-Mongolia, and hailed in particular the emergence of a new Buryat intelligentsia. Yerbanov, too, made a speech in which he

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186 promised to establish in Buryat-Mongolia a 'strong rear' for the Red Army. In an emergency, he said, the Buryats would come immediately to the rescue of their great fatherland, the Soviet Union. For his share in transforming the B.M.A.S.S.R. into 'one of the most advanced republics of the U.S.S.R.', Yerbanov was awarded the Order of Lenin.

665 661 Between January 1936 and summer 1937 the Politbureau changed its mind completely about the Buryat-Mongol A.S.S.R. 'One of the most advanced Republics' became suddenly one of the darkest spots on the map of the U.S.S.R. The fine Buryat intellectuals were, according to official Soviet statements, but a 'band of gangsters, bourgeois nationalists, Japanese and German spies, diversionists and wreckers'.[5] There was no crime under the sun which the Party secretary, Yerbanov, the president of the B.M.A.S.S.R., Dampilon, and the members of the Council of People's Commissars, were not found to have committed. This is how Yerbanov's successor as Party secretary, Semen Denisovich Ignatev,* summarised the activities of his predecessor and his associates: 'The abject dirty dogs of fascism, the ferocious enemies of the Buryat-Mongol people, the bourgeois nationalists, in conjunction with trotzkyite-bukharinist bandits, conducted their dirty, dark and treacherous work for many years. These trebly contemptible Judases poisoned people, infected and destroyed cattle, wrecked industry, incited towards national hatred, and behaved everywhere disgustingly like beasts. They tried to separate Buryat-Mongolia from the U.S.S.R., and to put the country under the protectorate of the black fascist Samurai of Japan.'[6]

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625 We do not know how the N.K.V.D. proved its point about the existence of a pro-Japanese conspiracy in Buryat-Mongolia, but it is possible that it took refuge in deliberate provocations. Such provocations are known to have been tried out with considerable success in other parts of the Soviet Union. One case was mentioned by the former Soviet historian, Avtorkhanov, who is now living in a Western country. In his book, *Genocide in the U.S.S.R.*, Avtorkhanov tells how, in Ingushetia in the Caucasus, a Soviet police official posed as a Japanese agent. He approached all potential enemies of the Soviet régime and recruited them for a fictitious organization. To make the farce complete, he made his victims take the oath on the Koran, and even distributed money and arms among them. As soon as a sufficient number of persons had committed themselves to a pro-Japanese policy, the N.K.V.D. started to arrest 'Japanese spies'.† Such tactics may also have been used in Buryat-Mongolia.

* S. D. Ignatev specialized in nationalities problems. Having carried out the purge in Buryat-Mongolia he was sent to Bashkiria and later to Byelorussia and Uzbekistan. In the spring of 1953 he became a secretary of the Central Committee of the Soviet Communist Party, but fell into disfavour a few weeks later.

† A. Avtorkhanov, *Narodoubiistvo v S.S.S.R.*, Genocide in the U.S.S.R., Munich 1952, pp. 31–33.

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The 'Japanese spies' and 'Buryat bourgeois nationalists', dominated everywhere, according to official statements – in agriculture, in industry, among the leading personnel of most 'aimaks' (the districts into which the Republic is sub-divided) and in all cultural institutions. The counter-revolutionary nationalists were firmly entrenched in the Buryat State Publishing House, in the local Union of Soviet Writers and in the principal Buryat communist newspaper *Unen*. The Institute of Buryat Culture was 'a jumble of all sorts of human scum', employing four Mongol princes and twenty adventurers, kulaks and white guards.[10]

Were all these charges pure imagination, or did they contain a certain amount of truth? It is difficult to believe that Yerbanov the 'chief-bandit' of Buryat-Mongolia, to speak in the official jargon, was at any time a 'bourgeois nationalist', 'Japanese spy' or 'pan-Mongolist'. Even before the First World War he belonged to a 'Marxist circle' in the Siberian town of Barnaul. From 1917 onwards he was a Communist Party member and took and active part in the fight against the White Admiral Kolchak. After the foundation of the Buryat-Mongol A.S.S.R., in 1923, Yerbanov occupied the highest posts in the Republic, first that of prime minister, and from 1929 that of Party secretary. It is true, however, that Yerbanov advocated moderation in the fight against Buryat nationalism and national culture. He also favoured the 'Buryatization' of the Republic, in as far as this was possible in view of continuous Russian colonization. The Soviet Government on the other hand, haunted by the fear of a Japanese attack on the U.S.S.R., wanted the ruthless suppression of all nationalist elements in Buryatia which might have collaborated with the invader. Buryat nationalism, in the Soviet view, was a natural ally for Japan, just as Ukrainian nationalism was an ally of German imperialism. A half-hearted attitude towards Buryat nationalism, such as that manifested by Yerbanov, was thus a criminal offence and had to be mercilessly exterminated.

The explanation of the fight against the Yerbanov deviation cannot be found in the purely political sphere alone. There is no doubt that the economy of the B.M.A.S.S.R. was in a state of disorganization when the N.K.V.D. launched its big action against the 'enemies of the people' in Buryatia. Buryat-Mongol industry drastically under-fulfilled the Second Five-Year Plan. The most important plants of the Republic under-fulfilled the plan by as much as 40 per cent. The greatest failure was the Locomotive and Waggon Repair Works of Ulan Ude, in the construction of which over 20,000 people had participated. This plant was to be the principal railway repair shop for the whole of the Soviet Far East and for Central Siberia. Russia's transport and supply system in the Japanese border areas depended on its efficiency. The plant was hastily constructed with faulty material, and some of the buildings collapsed soon after their completion. The local Party leadership had to

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take the blame, although the Railway Repair Works were an 'industrial giant' of all-Union importance and, consequently, a primary responsibility of the central government.

THE DISMEMBERMENT OF BURYATIA

The liquidation of the 'Yerbanov band' proceeded with amazing rapidity. Yerbanov was denounced as a 'Japanese spy' by the Communist Party organization of Ulan Ude on September 26th, 1937, and he was executed barely three weeks later on October 12th. His trial, though short, was one of the biggest which took place in Soviet Russia during the great purge of 1937. It ended with a total of 54 death sentences and executions. This alone shows the degree of nervousness which the Kremlin felt over the situation in the Buryat Republic. Executions, mass dismissals of Party and State officials and their replacement by new people were however, not enough to restore order in the B.M.A.S.S.R. The Soviet Government inflicted on the Republic a sort of collective punishment and deprived it of six of its aimaks (districts). Four of them were located in the westernmost part of the Republic, beyond Lake Baikal, and the two remaining ones formed an enclave in the Chita Province, and were situated 120 miles from the borders of Manchukuo. The 'reform' was justified by the assertion that Yerbanov's misrule had been particularly disastrous in the outlying districts of Buryatia, and required special measures of remedy. The four western aimaks were added to the Irkutsk Province and the two eastern aimaks incorporated into the Chita Province. Within these two provinces the former Buryat territories formed 'National Areas' (okrugi), that lower form of Soviet national autonomy which is otherwise confined to the small tribes of the Far North.

The administrative reform, as such, was not unreasonable from a practical point of view, since the aimaks concerned were organically linked with the two Russian Provinces into which they were formally included by the Decree of September 26th, 1937. The timing of the reform suggested, however, that it was meant to be a reprisal against Buryat nationalism, and, in the case of the eastern aimaks, also a measure of military security. According to the official version, dozens of 'bandits working on the direct instructions of the Japanese secret service were busy sabotaging all efforts of the Soviet Government' in the outlying districts of the B.M.A.S.S.R. These Japanese agents were not powerful administrators who abused their office, but ordinary farmers belonging to kolkhozes with such pretentious names as 'Karl Marx' or 'Comintern'.[11]

The re-drawing of Buryatia's frontier cost the Republic only 12 per cent of its territory, but had considerable economic consequences. The six aimaks affected by the change included one-third of Buryatia's cattle

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population, whilst one quarter of Buryatia's sowing area was situated within the western aimaks which went to the Irkutsk Province as the 'Ust Ordynsk Buryat-Mongolian National Okrug'. The separated Buryat territories in the east, now the 'Aginsk Buryat-Mongolian National Okrug', contain some of the biggest lead deposits of the U.S.S.R.

Buryat cultural and educational activities, within the strict limits of communist ideology, were safeguarded even in the 'National Areas' with the help of national schools and a Buryat-Mongol department at Irkutsk University.[13]*

In the more important Ust Ordynsk National Area, cultural work in the Buryat language labours under a difficulty for which the Soviet régime bears no responsibility, namely, the far-reaching denationalization of the local Buryats. Of the three Buryat poets and writers of the National Area, two are writing their works in Russian.[13]

The victory of the Soviet central authorities over Yerbanov and his friends made the Russian State safer against a particularly harmful brand of 'local nationalists', the 'pan-Mongolists' of Buryatia. It led to the aggrandizement of Russian Provinces at the expense of an autonomous republic and it probably made Russia's position slightly more secure in the Far East.

THE TRIUMPH OF RUSSIAN INFLUENCE

The victory of Soviet centralism in Buryat-Mongolia was followed by the introduction of the Russian alphabet for the Buryat language on April 7th, 1939, and by the arrival of a new wave of Russian immigrants. The special privileges for new settlers in the Far East, which were included in the decree of November 17th, 1937, expressly applied to the B.M.A.S.S.R.

Russian colonization in Buryatia, it is true, had never ceased under the Soviet régime but, on the basis of the new decree, the influx of Russians became more intense and more systematic. As early as 1926, the Russians formed 52.7 per cent of the population of the B.M.A.S.S.R. against 43.8 per cent Buryat-Mongols. During the first and second Five-Year Plan period, Russians and other Europeans were brought into the Republic because it proved to be difficult to recruit native workers into industry. In 1935 only 16 per cent of Buryatia's industrial workers were Buryats. Even in 1938 the Railway Repair Works of Ulan Ude included hardly 500 Buryats among their 6,000 workers. The

* The Irkutsk University, which is geographically the nearest Russian University to the Soviet Far East, has established a kind of cultural protectorate not only over the Ust Ordynsk National Area, but over the whole of the B.M.A.S.S.R. The Irkutsk University, and not the Ministry of Education in Ulan Ude, decides how the Buryat language is to be taught in the schools of the 'Autonomous Republic', and what reforms are to be introduced into the Buryat language itself. (*Izvestiya*, July 10th, 1952).

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growth of Ulan Ude, the Buryat capital, was almost entirely due to the arrival of Russian workers. The town, which had 30,000 inhabitants in 1927, increased its population to 55,000 inhabitants in 1932 and to 129,000 in 1939. It does not seem that the Buryats have formed, at any time, more than 20 per cent of the population of the city.* Also the other towns of the B.M.A.S.S.R., such as Kyakhta and Babushkin (named after the Russian Bolshevik revolutionary, Ivan Vasilevich Babushkin) have a predominantly Russian character. This could hardly be otherwise, for the majority of the Buryats became fully sedentary only during the first two Five-Year Plan periods. In 1928-29 only 9.8 per cent of all Buryats were officially classified as sedentary, 78.6 per cent were described as semi-nomadic, and 11.6 per cent as nomadic.[14]

This semi-nomadic and nomadic past of the Buryat people made it impossible for even the young Buryat Soviet generation to play a major part in the 'new socialist life' of Buryatia. In 1948 the country had over 7,000 specialists with higher and secondary education who worked in industry, transport and agriculture of the B.M.A.S.S.R. Only 1,379 of them were Buryats.[15]

The preponderance of the Russian urban element in Buryatia provoked hostility amongst the Buryats against the towns, which the Soviet régime rightly interpreted as hostility against the Russian proletariat and Bolshevism itself.

CULTURAL AND LINGUISTIC DEVIATIONS

The spokesman of this antipathy to city life was the most gifted Buryat poet, Solbone Tuya, who had enough courage to tell the communist Russian colonizers:

No, keep your overcrowded cities,
With their sophisticated air!
Guileless and free, I need the country,
The cool wind blowing through my hair.
Give me the steppe, limitless, windswept,
Its vastness stretching on each side,
Where free from orders and surveillance,
Man's goodness is his only guide.

* The last official statistics giving the ethnic composition of Ulan Ude refer to 1926. In that year 83 per cent of the inhabitants of the town were Russians. A similar Russian predominance existed then and still exists, in the capitals of other Autonomous Soviet Socialist Republics. The capital of Tartaria, Kazan had, in 1926, 70 per cent Russians; Ufa, the Bashkir capital had 76 per cent and Izhevsk, the capital of Udmurtia 91 per cent. In Yakutsk, Yakutia's capital, the situation was more favourable from the point of view of the local people. The Russians accounted for only 56 per cent of all inhabitants and the Yakuts for almost one third. But at the time of the 1926 census Yakutsk had only 10,000 inhabitants. Since then its population has increased sevenfold and the Yakut capital is now ethnically at least as Russian as its Buryat-Mongol counterpart.

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The author of these verses, whose real name was Pyotr Nikiforovich Danbinov, was one of the most remarkable personalities whom the Buryat people produced in the twentieth century. During the First World War, the Czarist régime persecuted him for nationalist Buryat activities. The communist government of the Far Eastern Republic recognized Danbinov as Buryat national leader and made him Deputy Chairman, first of the Constituent Assembly, and later of the National Assembly, of the buffer-state. After the amalgamation of the Far Eastern Republic with the Russian Soviet Federation, Danbinov devoted himself entirely to literary and cultural work.[16] *The Encyclopedia of Literature*, published by the Communist Academy, described him as the 'most outstanding Buryat poet'.[17] Until the middle of the 'thirties', Danbinov was frequently criticized as a 'national democrat', but he was respected for his great abilities as a poet and writer. He seems to have been purged at the time when Yerbanov and his supporters were liquidated. His name is omitted from the section of the new edition of the *Soviet Encyclopedia* which deals with the development of Buryat literature. A similar fate befell all other Buryat poets and writers who founded the modern Buryat literature such as Baradiin, Namzhilon and Bazaron. These representatives of 'kulak-noyon* literature', who defended the interests of the Buryat steppe against those of the Russian Bolshevik towns, were all tolerated as long as there were no proletarian Buryat writers but as soon as a proletarian Soviet literature in the Buryat language had grown in communist hot-houses, the nationalist pan-Mongolist writers were doomed to silence.

Pan-Mongolism also strongly affected linguistic problems. Buryat nationalist writers and intellectuals, whilst stressing the cultural differences between themselves and the Russians, endeavoured to draw closer to the Khalka-Mongols of Outer Mongolia. They replenished the Buryat-Mongol language with expressions borrowed from the Khalka-Mongol language and tried to adapt the phonetics, syntax and morphology of Buryat-Mongol to Khalka-Mongol in the expectation that the latter might become the literary la guage common to all Mongol peoples.

Grammars and dictionaries of this artificial Khalka-Buryat synthetic language were published in 1932, but the Communist Party opposed this attempt at linguistic pan-Mongolism. The new language was banned, and the dialect spoken in Southern Buryatia was chosen as the basis of the literary language.[18]

Great pains were taken by the Soviet authorities to eliminate from the officially recognized Buryat language all Mongol expressions for political terms, and to replace them by international and Russian words. It was feared that the sense of the basic notions of communist propaganda

* The 'Noyony' are the members of the tribal aristocracy of the Buryats, Kalmucks and other Mongol peoples.

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might be distorted if they were taken from the vocabulary of the 'feudal Mongol language'. There was reason for this anxiety. The Mongol word for 'dictatorship', for instance, meant 'government maintaining itself in power by violence'. This may have been, from the Soviet standpoint, quite permissible if referring to a foreign dictatorship, but it was also applied to the 'dictatorship of the proletariat' existing in Russia, and, in this case, the Mongol term meant an open attack on the Soviet régime.

IDEOLOGICAL STRUGGLES IN THE POST-WAR PERIOD

During and after the Second World War, Buryat-Mongolia, as many other national territories, experienced a certain nationalist revival which found a visible expression in literature. As late as December 1950, the Party secretary of the B.M.A.S.S.R. stated: 'The writers' organization of the Republic committed in the post-war period various serious ideological mistakes. Bourgeois-nationalist elements in their books expressed enthusiasm about the archaic period in which feudal lords and khans ruled. They tried to give a picture full of deceit of the relations between the Mongols and the Russians. The Party helped the writers of the Republic to unmask the exponents of bourgeois-nationalist distortions in literature and to purge them.[19] A year after this statement was made, official quarters still referred to the 'considerable amount of work' which the communist organizations of Buryat-Mongolia carried out to expose 'bourgeois-nationalist and cosmopolitan distortions in the study of Buryat-Mongol history and in literature and art'.[20]

The main target of the campaign against Buryat-Mongol cultural nationalism in the post-war period was, however, not a living poet and writer, but the legendary national hero of the Mongols, 'Geser'. The legend of 'Geser' is several centuries old. In 1715 it was put into print for the first time in the form of an epic. It has always enjoyed great popularity with the Mongols, not only with the Buryats, but also with the people of Mongolia proper. Originally, the Soviet Government and the Communist Party thought it wise to respect 'Geser', and to identify the epic as the expression of an age-long dream of the people about happiness and a better life. Such a positive view was still held in 1948. The publication of the full Russian text of 'Geser' was prepared for the twenty-fifth anniversary of the B.M.A.S.S.R., which was celebrated in June of that year.[21] Also in 1948 the All-Union Academy of Sciences published a book on 'Geser' which was a eulogy of the 'Epic of the Mongol People'. Only in the latter part of 1948 did the Party start challenging 'Geser' as a symbol of feudalism, pan-Mongolism and religious prejudice. The mythical 'Geser', it was suddenly stated, was none other than Genghis Khan and a Genghis Khan cult in disguise could not be tolerated.[22]

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THE BURYAT-MONGOL AUTONOMOUS REPUBLIC

The ban against the 'Geser' cult was such an important event in the life of Buryat-Mongolia that it could not be enforced by an order alone. The provincial committee of the Party, in conjunction with the local Union of Soviet Writers, therefore organized a 'discussion'. As usual in the case of such discussions, it was not intended to establish the truth on the problem in question. The 'discussion' was primarily a manœuvre by which pan-Mongol intellectuals were forced into the open. Those who came out in defence of 'Geser' were, of course, labelled as reactionaries and nationalists.

A 'NEW' IDEOLOGY FOR THE BURYATS

However absurd the official attacks on 'Geser' might appear, they are extremely logical from the point of view of the régime. A young Buryat who gets enthusiastic about the exploits of 'Geser' has not the approach befitting a Soviet citizen and patriot. The Soviet régime wants the young generation of the Buryats not to look towards feudal Mongol history, but to focus attention on the positive sides of their association with Russia. It is no longer advisable for a Buryat to lay stress on the wrongs which the Czarist régime did to his people by expelling them from their best lands. The Buryat-Mongol people are now taught to consider even Czarist Russia as a friend. This is the essence of the new historical concept which the Buryats had to endorse in a 'Letter to Stalin'. 'Until the Transbaikal region became united with the Russians', the letter said, 'the Buryat-Mongols were the victims of systematic raids carried out by the savage hordes of the Mongol-Manchurian Khans and feudal lords. These raids were so frequent that complete annihilation threatened the Buryat-Mongol people. The union of Transbaikalia with Russia saved the Buryat-Mongols from this fate.'[28]

In line with this conception, the young generation of the Buryats has been urged to turn away from 'Geser' to Peter the Great. A collector of Buryat folklore conveniently discovered a Buryat ballad paying tribute to the Russian Czar for assistance granted to the Buryat people. The ballad refers to the chiefs of eleven Buryat clans who, in 1703, sent a delegation to Peter asking him to protect them against unjust demands, levies and oppression on the part of Chinese officials. Peter granted their request, and a few years later sent his ambassador, Count Ragozinsky, into the Transbaikal region to fix the Russian-Chinese border in such a way as to include the Buryats, beyond any doubt, in the Russian Empire.

Apart from Peter the Great, there is another 'hero' to whom Soviet Russian propaganda in the Buryat-Mongol A.S.S.R., has attached considerable symbolic importance – Dorzhi Banzarov, 'the first Buryat scholar' (1822-1855). Banzarov demonstrated through his whole life

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159 that the place of the Buryat intelligentsia is on the side of the Russians.
177 His biography is striking evidence of the absence of any racial dis-
208 crimination in the old Russia. The Mongol village boy, Dorzhi, attended a grammar-school together with Russian boys. Later, he studied at Kazan University, and, at the age of 26, was made an official attached to the Governor-General of Eastern Siberia. Shortly before his death, Banzarov became a member of the Irkutsk branch of the Russian Geographical Society, and a splendid career, both as a scholar and civil servant, might have been in store for him had he not died prematurely.[24]

The story of Banzarov is certainly a good and useful one from the point of view of the Soviet régime, but will it be sufficient to bring about the triumph of the new ideology? Will it be able to efface the entire historical traditions of the Buryat-Mongols to a greater degree than abstract Marxist internationalism was able to do?

II. THE MONGOL PEOPLE'S REPUBLIC

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642 The Mongol People's Republic, as big as France, Spain, Portugal,
648 Great Britain and Ireland put together, occupies a unique position in Soviet nationalities policy. The Republic is formally outside the political framework of the Soviet Union, but it cannot be described accurately as a sovereign state. The experiment with the M.P.R. has shown that a state can be, in all essentials, a copy of the Soviet Republics proper, without being formally annexed by the Union and transformed into a fully fledged Soviet Republic.

MONGOLIA'S PLACE IN THE STRATEGY AND THEORY OF WORLD COMMUNISM

000 Both the Comintern and the Soviet Government thought originally that the example of the Mongol People's Republic might be followed by territories in other parts of the world. Bohumil Smeral, one of the leaders of world communism in the inter-war period, wrote in the official organ of the Communist International in 1930: 'The colonies can learn a great deal from what is taking place in the independent Mongol People's Republic. The M.P.R. is an interesting proof of how a backward people, which until recently lived the life of nomads, is making rapid progress while avoiding the purgatory of capitalism, because it is led by a national revolutionary party which is benefiting from the experiences of the Russian October Revolution.'[25]

Contrary to the expectation of the Comintern the example of the M.P.R. made little impact on colonial territories, but certain features of the Mongolian prototype were, nevertheless, widely imitated. After

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the Second World War, the model of the M.P.R. influenced the development in the new People's Democracies of Eastern Europe and East Asia. Of course, it could not be a one-hundred-per-cent imitation. Mongolia, a country of cattle-breeders, could not put into effect one of the most fundamental principles of Leninism, the leadership of the proletariat over all other classes of society, peasantry in particular. Soviet politicians in practice, and sociologists in theory, have found ways and means of filling the void in the proletarian hegemony in Mongolia. Since the Mongol proletariat could not lead the transformation of Mongolia into a socialist State, for the simple reason that such a proletariat did not exist, the Russian proletariat had to take over this task. As the Soviet academician, E. M. Zhukov, the Director of the Oriental Institute of the Soviet Academy of Sciences put it, 'the constant disinterested assistance as well as the ideological and political support of the Soviet Union ensured the necessary proletarian leadership for the Mongolian people's régime.'[26] In other words, Mongolia is the classic example of the fact that proletarian leadership in a given 'People's Democracy' need not necessarily exist inside the country, but can be imposed from without. 'The whole teaching of the non-capitalist path of development', says Zhukov, 'lies precisely in the fact that the working class of the land of victorious socialism (i.e., Soviet Russia) takes upon itself the leadership of a backward country with a peasant population.' The history of the Mongolian People's Republic is, therefore, a warning to all peasant countries, particularly those of Asia, against the danger of a Russian 'proletarian imperialism'.

OUTER MONGOLIA AND CZARIST RUSSIA

In the same way as Russian interest in Eastern European countries such as Bulgaria, Rumania and Poland, did not suddenly awake under the Soviet régime, so, too, in Outer Mongolia, Soviet Russian policy has a historical background. This means that the somewhat crude europeanization of this Far Eastern country should not be attributed to communism only, but should rather be interpreted as the work of Russian civilization.

The Russians started economic penetration into Mongolia in 1860 with the foundation of the first Russian business firm in Urga.* By 1910 twenty Russian firms were established in the Mongol capital, but not until Russia obtained political control over Outer Mongolia could she exercise a serious influence on the Mongols. The establishment of political control over Outer Mongolia did not mean a step forward for Russia; it was a consequence of her failure to become a strong Pacific power. Outer Mongolia was a consolation prize which Japan granted

* In 1924 Urga changed its name into 'Ulan-Bator-khoto' or 'Town of the Red Hero'. It is usually called Ulan Bator.

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175 Russia for the loss of Port Arthur and Southern Sakhalin by a secret
648 treaty concluded in 1907. The 'concession' could be made the more easily as Japan obtained, on the same occasion, Russia's recognition of the extension of her own zone of influence into Inner Mongolia. A formal treaty between Russia and Outer Mongolia, concluded on November 3rd, 1912, established the Russian protectorate over the country. The treaty reduced Chinese sovereignty over Outer Mongolia to an empty legal fiction, and excluded both Chinese colonization and Chinese influence.

181 A total transformation of Mongol society was required if Mongolia were to become a factor in world economy, and if the Mongols were to work for the 'White Czar' and for their own advancement. The Mongols, whose ancestors had been the 'vilest butchers of their fellow-men' and the most blood-thirsty warriors of history, had lost their warlike spirit under the influence of Buddhism and succumbed to total lethargy. Caruthers in his book, *Unknown Mongolia*, showed convincingly how the 'indolent life of the lamaseries, the Buddhist monasteries, became the life of the Mongol people as a whole'. Lamaism not only determined the character of the Mongol people but also affected unfavourably Mongol economy. The principle of inactivity inherent in lamaism prevented the development of cattle farming, the economic backbone of Outer Mongolia.[27]

Several years before the Bolshevik revolution with its anti-religious bias, Caruthers forecast that russianization of Outer Mongolia would weaken the power of the Khutukhtu, the religious, and, to a large extent the political, head of the Mongols, and would also lead to an impoverishment of the lamaseries. The establishment of an 'autonomous Mongolia' under Russian protection, added Caruthers in anticipation of further developments, would bring about 'fundamental changes in the life of the people and in the future of the Mongol race'. Mongolia would thus become a 'land of activity and progress' instead of a 'land of stagnation and suppression'.

648 Any Russian State interested in Outer Mongolia as a huge cattle reserve and as a military base, was bound to awaken Mongol activity. Any Russian State, regardless of its ideological complexion, was bound either to do away with the Khutukhtu, 'the Khan of Outer Mongolia' as he was also called, or to transform him into an instrument of Russian policy. No dual loyalties could be tolerated if Outer Mongolia were to be a *de facto* Russian possession.

The Khutukhtu proved to be an obstacle to Russian policy from the moment that Russia gained political control over Outer Mongolia. He manifested his desire to have Japan rather than Russia as overlord. Towards the end of 1913, he wrote a letter to the Tenno asking him to assist the Mongols in uniting Outer and Inner Mongolia, and to send a

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Japanese diplomatic agent Urga. As Russia was then in charge of Outer Mongolia's foreign relations, it developed upon the Russian Ambassador in Tokyo, Malevsky-Malevich, to hand over the Khutukhtu letter to the Japanese Foreign Minister, Baron Makino. Malevsky-Malevich loyally complied with the request, but the Japanese Government asked him to return the letter to the Khutukhtu, as Japan's aspirations did not then embrace Outer Mongolia. The Czarist Government was magnanimous enough not to take the matter too seriously and mildly warned the Mongols to let the incident be a lesson to them.[28]

THE FOUNDATION OF THE M.P.R.

The history of Outer Mongolia under Soviet rule shows that the Soviet Government was more efficient but less liberal than the preceding Czarist régime, in its relations with the Mongols. It is not easy to give a proper outline of this history. The sources are not only very meagre, but also full of contradictions, for the history of the Mongol People's Republic has been officially rewritten in the same way as has the history of the Russian October Revolution and of the Soviet Union. In the case of Outer Mongolia the 'rewriting' has been more successful because the new official history of the Mongol revolutionary movement, and of the M.P.R. itself, cannot easily be contradicted. There is no Mongol Trotzky who has acquainted the outside world with his own version, nor has a foreign observer had an opportunity to follow the crucial periods of Mongol history day by day. However, various material in Russian periodicals of the early 'twenties' makes it possible to reconstruct at least to some extent the origins of the first 'People's Republic'. This material clearly contradicts the claim that the present 'Mongol Revolutionary People's Party' and its creation, the Mongol Republic, owe their existence to two men, Sukhe Bator, the 'Mongol Lenin', and Marshal Choibalsan, the 'Mongol Stalin'.

The Mongol revolutionary movement had at least five founding fathers, and they represented various strata of Mongol society, and various ideological trends. There was the more conservative-minded Lama Chardorzhab, who had important connections with Mongolia's theocratic leadership. There was the liberal centre of the movement, represented by Lama Bodo, an employee of the Russian Consulate in Urga, and by a small official, Danzan, who was an enemy of Mongolia's theocratic rulers. There was the left, formed by Sukhe Bator, a worker in the Russian printing shop of Urga, and a very young man, Khorlogiin Choibalsan (alternative spellings – 'Chobalsan', 'Choibalsang', 'Chaibalsan') who had been educated first in a Lama monastery, and later in a Russian school at Kyakhta, on the border of Mongolia. Whatever may have been the ideological differences between the five,

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they were united in their desire for a far-reaching Mongol autonomy and, at least temporarily, for close links with the Russian Revolution. One of the first practical steps taken by the 'Young Mongolia' group, as it was then called, was to get in touch with Russian Bolsheviks. In 1920 the five revolutionaries went to Verkhneudinsk and met representatives of the Soviet authorities of Siberia. They also came in touch with a rather strange personality with the name of Rinchino, who described himself first as a 'Narodnik-Maximalist' and later as a 'non-party Bolshevik'. He was a convinced supporter of a communist pan-Mongolia, and played a great part in revolutionizing both the Buryats and the Khalka-Mongols. Rinchino took the Mongol delegation to Moscow, and introduced it to the Kremlin.[29] The Politbureau, including Lenin, Stalin and Bukharin, received the Mongol delegates who had been joined by Agvan Dordzhiev, head of the Buddhist community in Russia, who had once acted as a go-between the Czar Nicholas II and the Dalai Lama.

The Mongol delegates asked for Russian support for the re-establishment of the autonomous Mongol State, which after the fall of the Czarist régime had been reoccupied by the Chinese Army. Soviet Russia granted this help. Thanks to the Red Army, the Government of Mongolia was ultimately restored to the Mongols, but, prior to this, the country was still the scene of a number of dramatic incidents. Whilst the Mongol delegates were on their way back, news reached them that the white guard general, Baron Ungern-Sternberg, had captured Urga. In this situation the Mongol revolutionaries decided to set up a proper organization. In March 1921 they held the constituent congress of the Mongol Revolutionary People's Party in Kyakhta. Only 25 to 30 people attended, but the congress was, nevertheless, a very important event. It decided to set up a Revolutionary Mongol Army, and to form a government, and it also adopted a programme of ten points. This original party programme had nothing in common with the present aims of the Mongol Revolutionary People's Party. It demanded the unification of all Mongol territories, and the formation of a pan-Mongol Republic. The congress did not declare Mongolia's complete independence from China. The delegates, including Sukhe Bator and Choibalsan, considered that the new Mongolia ought to be primarily an ally of the Chinese Revolution and only secondarily of Russian Bolshevism. A fortnight after the congress, the Central Committee of the Mongol Revolutionary People's Party issued a 'Manifesto to the entire Chinese People, to the Chinese Communist Party, and to all revolutionary-democratic groups and real patriots of China' which called for Mongol-Chinese unity of action. Both the pan-Mongol concept of the Mongol People's Party and its positive attitude towards revolutionary China, were endorsed by the Far Eastern Bureau of the Comintern.[30]

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Contrary to later accounts, at the First Congress of the Mongol People's Party, Choibalsan played only a secondary role. The key positions in the Party and the State went to Danzan, who became the first party chairman, Chardorzhab, who became first prime minister, and Sukhe Bator, who was appointed commander-in-chief. There was still another person who played an outstanding part in the struggle for power that took place in Mongolia in 1921. His name was Maksarzhab; he co-operated at first with the counter-revolutionary camp, but, at the decisive moment, he deserted Baron Ungern and went over to Sukhe Bator. The Soviet Government recognized the great merits of Maksarzhab by awarding him the 'Order of the Red Banner' in 1922. The story of the involved and cunning manœuvres through which Maksarzhab helped the cause of the Mongol Revolution is told in a Mongol play, 'Khatan Bator Maksarzhab', which was produced in Ulan Bator in 1940.* Maksarzhab was not given full credit for his historic importance, but at least he was not a victim of those many purges which took place in Mongolia after the victory of the revolutionary party. As soon as the revolutionaries had captured the capital, Urga, from the white guards in July 1921, the first internal crisis broke out. Chardorzhap was replaced as prime minister by Lama Bodo. Neither did the latter remain long in power. After having been a year in office, he was not only deposed, but also executed, together with his predecessor and thirteen other prominent politicians. Bodo was accused of being too pro-Chinese, and of having sent a delegation to General Tchan-Tso-Lin to negotiate a Mongol-Chinese reunion.

Even after Bodo there was no real pro-Russian politician in the country to take over, but Mongolia at least obtained its first secular prime minister in the person of Danzan. For two years Danzan was extremely powerful. After the death of Sukhe Bator in February 1923, he also became commander-in-chief of the army. Thus he controlled the Party, The Government, and the Armed Forces. Through his close associate Bavasan, he also supervised the Mongol youth organization, the Revsomol. Danzan wanted genuine independence for Mongolia and

* Maksarzhab ,who had little connection with Russian revolutionary ideas, and who was a real home-grown Mongol revolutionary – his name figures prominently in the history of the revolution which took place in Outer Mongolia in 1911 – has had a stronger appeal to the Mongols than has the rather colourless guerilla leader, Sukhe Bator. Between 1933 and 1938, four plays about Sukhe Bator were performed on the Mongol stage. In all of them Sukhe Bator appeared as a pale figure, whilst all of them described Maksarzhab in much more lively colours. No Mongol playright who remembered the true story of the events of 1921, was able to create that exaggerated picture of Sukhe Bator's historical importance which from a pro-Soviet angle was essential. Two Russian playwrights, A. Borshchagovsky and Ya. Varshavsky, had to be commissioned, therefore, to do this and to produce an 'ideologically sound' play on Sukhe Bator. It was called *Heroes of the Steppe* and was performed in the theatre of Ulan Bator in 1942. (*Uvarova, Sovremenny Mongolsky Teatr*, 1921–1945 – 'The Contemporary Mongol Theatre, 1921–1945', Moscow-Leningrad 1945, pp. 89–91).

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665 not a Russian protectorate. He put out feelers to China, and even to
648 the United States, and he also tried to encourage the development of
668 foreign trade. Formally, Outer Mongolia was then still a constitutional
[661] monarchy under the Khutukhtu Bogdo-gegen. When the monarch died in May 1924, Danzan remained, for a few days, prime minister of the Mongol People's Republic. He was overthrown by the Third Party Congress. This strangest of all party congresses transformed itself into a supreme court, sentenced Danzan to death as a plotter against Mongolia's independence, and executed him on the spot, with Bavasan, the chairman of the Revolutionary Youth League.[31]

648 The Soviet Government had had a hand in the execution of both Bodo
439 and Danzan. The Third Party Congress, which liquidated the so-called
665 'Danzan conspiracy', carried the hallmark of direct Soviet interference. It decided that the M.P.R. should follow 'the road of a non-capitalist development', a formula which could not possibly have been coined by the Mongol lamas and cattle-breeders, who constituted the bulk of the congress delegates. It was obviously inspired by the Soviet envoy in Urga, and by Russian communist emissaries. Nevertheless, even after Danzan's death, Soviet Russia, then still under the premiership of Alexey Rykov, observed a fairly liberal attitude towards the Mongol Republic. It was still allowed to trade with foreign countries, particularly with China, Germany, the United States and Britain and to allow foreign business men to enter its territory. The country was also free to send students to German and French universities, and to conduct cultural propaganda in the capitalist West. This spell of tolerance came to an end in the winter of 1928-29, when the right-wing political leaders of the M.P.R., were exiled to Leningrad and when the Seventh Party Congress appointed a new left-wing Committee.

186 This time the deposed dignitaries of the People's Republic could not
665 be charged with plotting against Mongolian independence. They were
668 eliminated from the political scene because they were too independent-minded, adhering to the original pan-Mongolist programme of the Revolutionary People's Party. Shortly before the downfall of the right-wing leaders, a Mongol Government spokesman, the Berlin representative of the Ministry of Education of the M.P.R., Ishi Dordji, had openly admitted that pan-Mongolism was the political ideology of Ulan Bator. He stated that the 'unification of the Mongols around Outer Mongolia' was the aim which the Government and the Revolutionary People's Party of the M.P.R., pursued. 'The cultural activity conducted in Mongolia', he said, 'has its importance and is bearing its fruits far beyond the borders of autonomous Mongolia . . . Independent Mongolia, with her developed national culture and her political and economic programme, is attracting great interest among the intellectuals and youth of the other Mongols living outside Outer Mongolia'

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Ishi Dordji added, that one could meet in Ulan Bator, representatives of all kinds of Mongols ranging from the Kalmucks of the Lower Volga to the Mongols of the Yellow River. Ishi Dordji frankly expressed the view that the cultural and political revival centred in Ulan Bator would ultimately influence both the half-russianized Buryats and the half-sinicized Mongol groups in Inner Mongolia, such as the Tumets.[22]

These amazing utterances of a Mongol Government official were made in the form of an article in the review *Osteuropa*, which was probably written shortly before the purge of the pan-Mongolist elements in the M.P.R. Government, but published only after that event. The article made abundantly clear why Russia, from her own point of view, had to intervene in Ulan Bator and put new people into the Mongol Government. By the end of the 'twenties', the Soviet leaders had lost all previous illusions that pan-Mongolism could ever be used to Russia's advantage. They no longer believed that pan-Mongolism could be made a Soviet tool, or that it could serve the cause of the revolution in East Asia.

LEFT-WING EXTREMISM

When the Seventh Congress struck its blow against Mongol nationalism, the leading Party and Government circles were just about to summon to Ulan Bator a pan-Mongol congress of lamas, for the old leadership was not only nationalistic, but also friendly to Buddhism. It had not only not touched the Buddhist monasteries, owning almost one-fifth of the country's cattle, but it had even granted them loans through the State bank. The Seventh Congress completely reversed the pro-religious policy. The property of the lamaseries was taken over by the State, and a whole chain of legislative and administrative measures forced the individual lamas to return to secular life. A 'Central Anti-religious Commission' was attached to the new government of the M.P.R. to co-ordinate all measures directed against the Buddhist monasteries. It was supported by a mass organization, modelled on the 'League of Militant Godless' in the U.S.S.R.

The new leaders of Mongolia tried to copy not only the anti-religious policy of the All-Union Communist Party, but also its economic policy. It was no longer simply a question of a 'non-capitalist development'. The new slogan was 'socialist transformation of the entire economy of the country'. The transformation was to be carried out during the first Mongol Five-Year Plan, which was supposed to run from 1930 to 1935. Destruction of all private enterprise in cattle-breeding and trade was the main objective of the Mongol plan. With this aim in view, the Eighth Congress of the Mongolian People's Party in 1930, which was entirely dominated by 'left-wing extremists', decided to found collective farms on the Soviet pattern. The decision was implemented so hurriedly

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423 665 177 185 that 35 per cent of all cattle-breeder families had joined the new 'Kolkhozy' by 1931. The Russian communist Press, far from disapproving this new course, welcomed it enthusiastically.

This Soviet enthusiasm for the new left-wing trend in Mongolia was of short duration, for it very soon had the most disastrous results. If 233 475 511 rapid collectivization was a mistake in the Soviet Union, it was even more out of place in Mongolia. Within two years the number of cattle dropped from 23·4 millions in 1930 to 16 millions in 1932. The crisis of cattle-breeding, and the impoverishment of the population ensuing from it, were made worse by the decline of trade and transport. Private trade had been forcibly liquidated, and the state and co-operative enterprises were not able to cope with their increased responsibilities and to provide goods in adequate quantities. The same was true of transport. The Government had rendered the work of private camel transport undertakings impossible, without developing motor transport on a corresponding scale. Finally, the Mongol State farms, which had been formed on the model of the Russian *Sovkhozy*, could be kept going only at the price of heavy losses to the public finances. Thus, the activities of the left-wing régime brought nothing but misery to the people and bankruptcy to the State.

423 665 As popular risings became increasingly frequent in all parts of the country, and as the general situation in East Asia became more and more threatening, Moscow decided to reverse once again its policy in Mongolia. Through the personal intervention of Stalin, the 'left-wing adventurers' were ousted from the Party and the Government. The implementation of the Five-Year Plan was stopped. The collective farms and State farms were liquidated. Private trade was re-introduced. The anti-religious campaign lost in momentum.* On the whole there was a return to sanity. This new policy was not initiated by a congress of the Mongolian Revolutionary People's Party. The Party was in too much chaos to allow for the election of delegates. The new line was decided at an extraordinary meeting of the Central Committee and the Central Control Commission of the Party, and a new congress, the

659 * Legal discrimination against Buddhist ecclesiastical dignitaries continued in the M.P.R. longer than in the Soviet Union. The Mongol Constitution of 1940 expressly deprived higher lamas of their voting rights. No such limitation was inserted into the Stalin Constitution of Soviet Russia which came into effect in 1936. When high ecclesiastical dignitaries in Soviet Russia were used for propaganda purposes, the Mongol Government adapted its policy to the Soviet model. In September 1944, the constitution of Mongolia was revised, and voting rights were granted to such categories of people as had been deprived of them for political reasons, the members of the Buddhist hierarchy included. The head of the Buddhist ecclesiastic organization in the M.P.R. then started to play a part in official propaganda similar to that of the Patriarch of Moscow and all Russia in the Soviet Union. During the 1945 plebiscite campaign, he was reported to have 'prayed for the prosperity of the independent Mongolian People's Republic'. (*Soviet Monitor*, October 22nd, 1945.)

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ninth, was not summoned until two years later when order was more or less restored in the country.

MONGOLIA AND JAPAN

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In this new period which started in June 1932, all references to a 'socialist transformation' of Mongolia were dropped. 'All-round strengthening of Mongol independence' became the chief slogan. Reasons of foreign policy played a considerable part in this change of tactics. In 1931, Japan had started the conquest of Manchuria, and from year to year, even from month to month, the Japanese armies were becoming more threatening in the Mongol-Manchurian border areas. There were signs of Japan conducting an active Mongol policy. A Mongol Office was attached to the Japanese puppet government of Manchukuo. The Hsingan Province of Manchuria, bordering on both Outer and Inner Mongolia, was transformed into an autonomous Mongol territory where Mongol princes were in charge of the administration under Japanese supervision. In 1937, Japan further extended its co-prosperity sphere by installing in Inner Mongolia a puppet government under Prince Teh.

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Moscow reacted to the Japanese challenge by strengthening the ties between the M.P.R. and the Soviet Union. On March 12th, 1936, the Soviet-Mongol Mutual Assistance Treaty was concluded. The most outstanding feature of the treaty was that it no longer mentioned the formal Chinese sovereignty over Outer Mongolia which the previous Russian-Mongol Alliance Treaty had still recognized. Despite the existence of the new treaty, the Soviet Government was still not satisfied with the situation in the M.P.R., and continued to harbour a deep distrust of most Mongol leaders. The Kremlin overrated most probably, the cleverness of the Japanese in handling the Mongol issue, and believed in the possibility of the emergence of a 'Japanese Party' in Outer Mongolia. In 1932, it is true, there had been a pro-Japanese rising in the M.P.R., but since then the situation had changed thoroughly. While in occupation of Manchukuo, the Japanese mismanaged the Mongol problem completely. They showed as little understanding of the mentality and the point of view of the Mongols as the German Nazis had shown to the peoples of the western borderlands of Soviet Russia when occupying those borderlands during the Second World War. In the Mongol territories of Manchukuo there was a 'strong anti-Japanese mood' which led to the execution of Mongol ministers, and other Mongol dignitaries by the Kwantung Army.[22]

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THE MURDER OF MARSHAL DEMID AND THE TRIUMPH OF MARSHAL CHOIBALSAN

665 Although the Japanese had forfeited such sympathies as they might
648 have had in the M.P.R., the Kremlin continued to fear that some of the leaders of the Mongol Government and the Party, in a moment of crisis, might prefer Asiatics to Russians as their supreme masters. This led to a new decisive change of régime in Ulan Bator, during which Choibalsan, the head of the Russian party, became the ruler of the country. Choibalsan had shown his loyalty to Soviet Russia in many instances, particularly in 1936 when he frustrated Japan's attempts 'to throw the door open into Outer Mongolia'. Making use of a number of incidents on the Manchukuo border, the High Command of the Kwantung Army then demanded the admission into the M.P.R. of Japanese military observers and of a Manchukuo consul. Certain of Russian support, Choibalsan braved the Japanese pressure. In his capacity of Foreign Minister, he emphatically rejected the Japanese demands. The War Minister, Marshal Demid, and the Prime Minister, Gendun, until then the strong men of Outer Mongolia, remained on that occasion in the background.

661 At the time when the purge in Soviet Russia reached its climax, Demid, Gendun, and his successor, Amor, were 'liquidated' and later referred to as 'enemies of the people'. The greatest sensation of all was caused by the disappearance of Marshal Demid who had met with sudden death when travelling to Moscow by the Trans-Siberian express. A statement issued by the official Soviet news agency said that Demid had died from poisoned food on August 22nd, 1937, near the railway station of Taiga, which is a few miles west of Tomsk. Together with Demid died Dzhansankorlo, a divisional commander of the Mongolian Army. Three other members of his entourage, a major and his wife and an official of the Mongol Legation in Moscow, were also poisoned but were rescued 'thanks to efficient medical assistance'. The mortal remains of the Marshal were not taken back to Mongolia which would have been the normal thing. They travelled all the way through Western Siberia and a large part of European Russia until they reached Moscow where they were cremated on the day of arrival. The Soviet authorities marked the occasion by organizing an impressive mourning ceremony in the Russian capital. Mongol and Soviet flags were lowered to half-mast, two cavalry squadrons and one artillery battery of the Red Army stood to attention. Prominent representatives of the Soviet People's Commissariats of Foreign Affairs and National Defence delivered funeral speeches.

All this – the death of Demid, the arrival of the corpse and the funeral speeches–was reported in one single issue of *Pravda* (August 29th, 1937),

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which also reassured the Mongols that the investigation into all circumstances connected with Demid's death would continue. But nothing further was heard about the whole affair which must have aroused the gravest suspicions throughout Mongolia. The tragic death of Marshal Demid, whose pictures could be seen throughout Outer Mongolia, was in all probability closely connected with the Tukhachevsky affair. All the defence arrangements for Outer Mongolia had been planned in agreement between Marshal Demid and Marshal Tukhachevsky. In view of the dependence of the Mongol Army on the Red Army, Marshal Demid could be nothing else than Tukhachevsky's local representative and had to share his fate.

Demid was hardly a 'Japanese agent', but he was certainly a staunch Mongol nationalist, more attracted by the tradition of Genghis Khan than by Marxism-Leninism. This is borne out by frequently-quoted passages of a speech which the Marshal delivered in 1934 at the Ninth Congress of the Revolutionary People's Party: 'The whole world knows that at the time of Genghis Khan, the Mongol Army distinguished itself by its impetuous attacks on the enemy. Today, when our country finds itself on the way towards national rebirth, we are strengthening in our army again this fine feature of Genghis Khan's forces, so that we can give a worthy answer to the enemy if he tries to attack us.'[24]

After the death of Demid, there were still other Mongols in leading positions to whom Genghis Khan was a greater object of veneration than Stalin. To get rid of these nationalists and romantics, Choibalsan had to purge once more the intellectual elite of the M.P.R. including the 'Academic Committee',* which co-ordinated scientific research work throughout the country. This happened in 1938. Little, if any, documentary evidence about this purge has penetrated into the outside world, but a Russian writer, Mikhail Kolesnikov, dealt with the problem of Mongolia's anti-Soviet intelligentsia in his revealing novel, *The Happy Oasis*. The main theme of the book is a conspiracy of Mongol nationalists who enjoy both Japanese and American support. One of the principal plotters is a learned Mongol, a graduate of Cambridge University, with the name of 'Zhamtso',† whom the Government had appointed to the post of President of the 'Academic Committee'. The opening chapter of the novel includes a conversation between Marshal Choibalsan and a Russian scholar whom Kolesnikov calls 'Andrey Makarovich Turanov', but who in reality is presumably A. Ya. Tugarinov, a Soviet zoologist who worked for many years in Mongolia. Here is a short extract from the dialogue which, with remarkable frank-

* The verbatim translation of the official Mongol title of this body is 'Committee of Books and Letters'.

† His real name was Zhamtsarano, a Buryat by origin and former professor of Irkutsk University.

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186 661 538 pass, admits Russian interference in the affairs of the 'Academic Committee':

"Choibalsan asked unexpectedly –

'What do you think of the work of our Academic Committee and in particular of the chairman of the Committee, Zhamtso?'

The question did not find Turanov unprepared. During a week's stay in Mongolia he had succeeded in getting well-acquainted with the work of the Academic Committee. Scientific work was conducted in an unsatisfactory way. The chairman, Zhamtso, suppressed the valuable initiative of young scholars. The funds assigned by the State were not spent in accordance with the provisions of the budget. He was not interested in the requirements of contemporary life.

'It seems to me that the work of the Academic Committee is conducted in a somewhat one-sided way' answered Turanov.

'What do you mean?'

'Well, my main contention is, of course, that the objects of the scientific research work of the Academic Committee and the problems which it solves have little connection with the practical interests of the State.'

'But the Academic Committee has accomplished a great work', interjected the Prime Minister, 'scientific research sections have been formed for various branches of study; philology, history, geology. A network of meteorological stations has come into being. A State library has been established which has now 200,000 volumes. Has all this really no connection with practical interests?'

'Oh yes, it has, but all this is not enough. I am speaking from the point of view of the programme of your party.'

Choibalsan's face assumed a thoughtful expression.

'You are quite right, Andrey Makarovich. It is not enough. Even worse than that. The Academic Committee spends the tremendous funds that are at its disposal in a completely unrational way. Not so long ago, Zhamtso submitted a plan to the Government suggesting the restoration of the ancient Mongol capital of Karakorum, the monastery of Erdeni Tszu and other monuments of the former greatness of Mongolia.'[35]"

186 538 The ruins of Karakorum, which was the capital of Genghis Khan, were discovered in 1889 by the Russian archæologist, N. M. Yadrintsev. From the Soviet point of view it would have been better if the ruins of the Mongol cultural and political centre had never been found at all. Their existence has served as an inspiration to Mongol nationalism and to pan-Mongol ideas, and, according to Kolesnikov's novel, they have also diverted the attention of certain Mongol intellectuals from practical economic tasks. Neither Choibalsan nor his Russian advisers could

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reconcile themselves to such an outlook and Kolesnikov's novel terminates, therefore, quite logically with the reorganization and purge of the 'Academic Committee'.

CHOIBALSAN'S 'FOREIGN POLICY'

Under Choibalsan's rule, the ties between Russia and the M.P.R. were greatly strengthened. The Mongol National Revolutionary Army and the Red Army virtually became one. The Japanese, who between May and August 1939, provoked a number of major border incidents in the area of the Khalkin-Gol River, had to learn by experience that the Soviet-Mongol alliance was something very real. Official Soviet reports on the incidents indiscriminately used such terms as 'Mongol-Soviet forces', 'Soviet-Mongol artillery' and 'Mongol-Soviet air force'. There is, indeed, no doubt that the Japanese attacks were warded off by both Mongol and Soviet troops and that the former lost 1,131 men in the operations. According to an official Soviet version, 25,000 Japanese were killed in the battles on the Khalkin-Gol River.[36]

When hostilities broke out between Germany and the U.S.S.R., the M.P.R. did not join the war officially, nor did it send any troops to the front, but it helped the Soviet Union in every other way. The Mongols had to work hard in order to supply the Red Army with everything that their country had to offer. Here is a short list of what the Mongols sent to the front: 60,000 horses, 47,000 sheepskin coats, 51,000 fur jackets, 60,000 pairs of felt boots, 'and many other valuable things'.[37]

In addition, the Mongols sent 28,000 so-called 'individual presents' to Soviet soldiers and officers. Throughout the war the M.P.R. also had the patronage of a tank brigade, 'Revolutionary Mongolia', and of an air squadron, 'The Mongol Arat'.* It is not quite clear what the word 'patronage' entailed in these two cases, but it is a safe assumption that it was a rather costly affair, and that both the brigade and the squadron were financed and supplied out of Mongol State funds.

It does not seem that these material sacrifices were gladly accepted by the Mongols, particularly not in the early part of the war when the Soviet armies suffered defeat. The initial victories of Germany are likely to have provoked some doubts in Mongolia about the wisdom of Choibalsan's policy of Mongol-Soviet co-operation. Opposition re-emerged within the Party. In the years 1942 and 1943 it was again purged from 'alien and unsuitable elements'.[38] Later in the war when the military situation was reversed Choibalsan recovered his prestige and 10,000 new members joined the Party ranks. The popularity

* The original meaning of the term 'arat' (new Mongol spelling 'ard') is nomadic tolling cattle-breeder. It is now applied to the entire working population of Mongolia and in its widest sense it simply means the whole Mongol people.

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665 of the régime was further enhanced by the so-called Soviet-Japanese
661 War of August 1945 in which the Mongol army, then 80,000 men
[127] strong, played an active part. The M.P.R. proclaimed a 'Holy War' against Japan, and the Mongolian army suffered 675 casualties in the campaign. However small this contribution might have been, Mongolia got ample credit for it. Stalin's Order of the Day of August 23rd, 1945, announcing the capitulation of the Kwantung army mentioned the 'Mongolian army under Marshal Choibalsan' twice, and stated expressly that the 24 artillery salvoes from 324 guns which were fired in Moscow in honour of the victory saluted both the Soviet and the Mongol troops.

The next event in Mongolia's history was a farce, namely, a plebiscite
648 about the independence of the M.P.R. The plebiscite was carried out on
[208] October 21st, 1945, in compliance with an agreement which the Soviet Government had concluded with the Chiang Kai-shek régime on August 14th, of the same year. The plebiscite was arranged for purely formal reasons; it was to end, from the point of view of international law, Mongolia's theoretical inclusion in the Chinese Republic. On the basis of Mongol constitutional law, Mongolia had been independent ever since the adoption of the constitution of June 30th, 1940, which had proclaimed Mongolia an 'independent state'. There was nobody in Mongolia who would have dared to oppose the so-called independence of the M.P.R. at the plebiscite, and not a single person voted against it, not even one of the numerous Chinese working in Ulan Bator.

The Mongol-Soviet relations of the post-war period were regulated by two treaties which were concluded in February, 1946. They were not very explicit in their wording, but they provided, in fact, for a total co-operation between the two countries in the military, economic and cultural spheres. One of the treaties referred to detailed agreements which were to be entered into by the various economic and cultural organizations directly. These special agreements have never been published, but it may be taken for granted that all important Soviet State institutions have by now established direct contact with the corresponding institutions of the M.P.R.

THE NEW CONSTITUTION

642 As far as the internal development of the M.P.R. is concerned the
177 Choibalsan régime narrowed down the differences in the political structure between Mongolia and the Soviet Union. Choibalsan and his associates gave the M.P.R. a new constitution which is largely identical with the constitutions of the thirty-two Soviet Republics and Autonomous Soviet Republics of the U.S.S.R.

The constitutional reform was carried out in two stages. Most of the provisions of the constitution now in force were adopted as early as 1940

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by the Tenth Party Congress, but in February 1949 this original text was redrafted and altered in a number of essential points. Under the 1940 constitution there existed two national assemblies, the 'Little Khural', which performed the ordinary legislative work, and the 'Grand National Khural' which was summoned only for the discussion of fundamental problems of policy. The 1949 version of the constitution abolished this dualism. It vested all legislative power in the Grand National Khural, which now fully corresponds to the Supreme Councils (Soviets) of the Republics forming the Soviet Union. Moreover, the 1940 constitution provided for indirect elections to the central legislature, and to the provincial (aimak) and district (somon) councils. The revised text of the constitution introduced direct elections on all levels, including the election of judges of the lower courts, exactly as in the Soviet constitution of 1936.

A minor change concerned Outer Mongolia's national flag. Article 93 of the 1940 constitution said that the flag of the Mongol People's Republic should consist of a red cloth. Article 106 of the amended constitution stipulated that the Mongol national colours should be red-blue-red. Here, at least, Mongolia seems at first sight to depart from the Soviet model, for, until 1949, all Soviet Republics had the plain red flag as their 'national' symbol. But the Kremlin has decided that there is no need for a uniformity of symbols as long as there is uniformity of policy. Since 1949 one Soviet Republic after another has been allowed to change the red banner for a red-blue one or a red-green one, with the red colour always comprising two-thirds of the whole flag. Thus, what appeared at first as a special concession to Mongolia has also been granted to the official member States of the Soviet Union.

Apart from small variations of terminology there is only one fundamental difference between the Mongol and the Soviet constitutions. The constitutions of the Soviet Republics proper are constitutions of countries where, in the official view, socialism is a reality, while the Mongol constitution is one of a country which is moving on a non-capitalist road, but where socialism is still an aim for the future. Soviet sociologists and experts on the Far East have been unable to agree so far as to whether Mongolia has really marched on the way to socialism since the adoption of the 1940 constitution. One school of thought considers that the anti-feudal programme of the Mongol Revolution was exhausted by 1940, and that since then Mongol socialism has been developing. The protagonists of this concept have shown, with the help of statistics, that the socialist sector already plays an important part in many branches of Mongol economy.

The other, and more authoritative, group of sociologists and experts believes that the 'struggle against remnants of feudalism in the economy and the minds of the people' is still not terminated. This view is held,

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642 829 by among others, academician E. M. Zhukov, who, in November 1951, stressed at a conference in the Oriental Institute of the All-Union Academy of Sciences that the existing level of industrial development was not capable of ensuring the transition of the bulk of Mongol livestock breeders to a collective economy.[39]

The following comparison between ten characteristic articles which are contained in both the Mongol and Buryat-Mongol constitutions, shows to what extent Choibalsan copied the Soviet original.

Constitution of the Mongol People's Republic.	Constitution of the Buryat-Mongol A.S.S.R.
Article 3.	*Article* 3
642 646 All power in the Mongol People's Republic belongs to the working people of town and khudon as represented by the *Khurals** of Working People's Deputies.	All power in the Buryat-Mongol A.S.S.R. belongs to the working people of town, ulus and village as represented by the *Soviets** of Working People's Deputies.
Article 5.	*Article* 6.
642 471 All the land and its natural resources, forests, waters and all the wealth contained therein, factories, mills, mines, gold production, rail, automobile, water and air transport, means of communication, banks, *Hay-Cutting Stations** and State farms are State property, that is, belong to the people as a whole. Private ownership of the above is forbidden.	The land, its natural resources, waters, forests, mills factories, rail, water and air transport, banks, means of communication, large State organized agricultural enterprises (State farms, *Machine Tractor Stations** and the like) as well as municipal enterprises and *the bulk of the dwelling houses in the cities and industrial localities,** are State property, that is, belong to the people as a whole.
Article 34	*Article* 39.
642 645 The Council of Ministers of the M.P.R. is for its activity responsible and accountable to the *Grand National Khural** and in the intervals between sessions to the *Presidium of the Grand National Khural.**	The Council of Ministers of the Buryat-Mongol A.S.S.R. is responsible and accountable to the *Supreme Soviet** of the B.M.A.S.S.R. and in the intervals between sessions to the *Presidium of the Supreme Soviet of the B M.A.S.S.R.**
Article 67.	*Article* 80.
642 693 Judges are independent and subject only to the law.	Judges are independent and subject only to the law.

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Article 71.

Local Public Prosecutors exercise their functions independently of any local organs whatsoever, being subordinate solely to the Public Prosecutor of the Republic.

Article 85.

The organs of the Public Prosecutor's Office exercise their functions independently of any local organs whatsoever, being subordinate solely to the Prosecutor-General of the U.S.S.R. and the Public Prosecutor of the R.S.F.S.R.

642 693

Article 86.

Candidates for elections are nominated by electoral constituencies. The right to nominate candidates is secured to public organizations and societies of the working people: the organizations of the *Revolutionary People's Party** co-operatives, trade unions, youth organizations, Arat unions and cultural societies.

Article 109

Candidates for elections are nominated by electoral constituencies. The right to nominate candidates is secured to public organizations and societies of the working people: the organizations of the *Communist Party*,* trade unions, co-operative societies, youth organizations, and cultural societies.

642 665

Article 95.

In conformity with the interests of the working people, and in order to develop the organizational initiative and political activity of the toiling masses, the citizens of the M.P.R. are ensured the right to unite in public organizations: trade unions, co-operative organizations, youth organizations, sport and defence organizations, cultural, technical and scientific societies; and the most active and politically-conscious citizens in the ranks of the workers, toiling arats and intellectuals, are united in the *Mongol Revolutionary People's Party*,* which is the vanguard of the working people in their struggle to strengthen and develop the country *along non-capitalistic lines*,* into a party which is the leading core of all organizations of the working people, both public and State.

Article 93.

In conformity with the interests of the working people, and in order to develop the organizational initiative and political activity of the toiling masses, the citizens of the B.M.A.S.S.R. are ensured the right to unite in public organizations, trade unions, co-operative organizations, youth organizations, sport and defence organizations, cultural, technical and scientific societies; and the most active and politically-conscious citizens in the ranks of the working class and other sections of the working people unite in the *Communist Party of the Soviet Union*,* which is the vanguard of the working people in their struggle to strengthen and develop *the socialist system*,* and is the leading core of all organizations of the working people, both public and State.

642 641

* The italics are the author's.

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Article 101.	*Article* 96.
642 The M.P.R. affords the right of asylum to foreign citizens persecuted for defending the interests of the working people, or for their struggle for national liberation.	The B.M.A.S.S.R. affords the right of asylum to foreign citizens persecuted for defending the interests of the working people, or for scientific activities or for struggling for national liberation.
Article 103.	*Article* 99.
642 702 Compulsory military service is law. Military service in the Mongol People's Revolutionary Army is an honourable duty for the citizens of the M.P.R.	Compulsory military service is law. Military service in the Armed Forces of the U.S.S.R. is an honourable duty for the citizens of the B.M.A.S.S.R.
Article 104.	*Article* 100.
642 641 The defence of the motherland is the sacred duty of every citizen of the M.P.R. Treason against the motherland – violation of the oath, desertion to the enemy, impairing the military power of the state and espionage – is punishable as the most heinous of crimes.	To defend the motherland is the sacred duty of every citizen of the B.M.A.S.S.R. Treason against the motherland – violation of the oath, desertion to the enemy, impairing the military power of the state and espionage – is punishable as the most heinous of crimes.[40]

642 665 The statute of the Revolutionary People's Party which its Tenth Congress adopted in 1940, copied that of the Soviet Communist Party as closely as the Mongol constitution imitated the Soviet constitution. The Tenth Mongol Congress walked in the footsteps of the Eighteenth Congress of the Soviet communists of March 1939. Like its great example, it was a landmark in the Party's history and was followed by an organizational strengthening of the Party ranks. Between the Tenth and the Eleventh Congress in 1947, the Party increased its membership from 14,000 to 28,000.* The Soviet Communist Party also doubled its membership during this period.

CHOIBALSAN'S ECONOMIC POLICY

185 The most important task of the Eleventh Party Congress was the introduction of the new Mongol Five-Year Plan. The plan came into force

* During the period between the wars, the membership figure of the Mongol Revolutionary People's Party had developed like a fever curve. From 3,000 members in 1923, it went up to 15,000 in 1928, and reached its peak in the first half of 1932, when there were as many as 44,000 members. Of this record number, only 8,000 were left after a thorough purge following the change of policy carried out in June 1932.

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on January 1st, 1948, twenty years after the introduction of long term economic planning in the Soviet Union. The Five-Year Plan running from 1948 to 1952 was officially described as the 'first', although in fact, the first Mongol Five-Year Plan had been introduced and abandoned as a failure in the early 'thirties'. 185

The purpose of the plan was to increase the general well-being of the country and to put the Mongol People's Republic firmly 'on the way towards socialism'. In the field of cattle-breeding, this was to be done by strengthening collectivized cattle-farms, the so-called 'Arat Unions'. Their number has increased every year. There were 34 of such Arat Unions in 1938, 121 in 1949, and 139 in 1951. It is obvious that the Mongol Government is anxious not to enforce collectivization too hastily, in view of the negative experiment of the early 'thirties'. 185 474 233

Together with the 'Arat Unions', so-called Hay-Cutting Stations have been set up all over the country. Their number grew from 10 in 1937 to 55 in 1951. The Hay-Cutting Stations have very much in common with the Machine Tractor Stations (M.T.S.) in the Soviet Union. In the same way as Soviet collective farms depend on the M.T.S. for the supply of agricultural machinery, the Arat Unions rely on the Hay-Cutting Stations for the supply of feeding-stuff for their cattle. In addition to 'Arat Unions' and Hay-Cutting Stations, the Mongol Government tried to promote State farms. The latter have been the pioneers of agriculture in Mongolia, though on a small scale; but in future they are supposed to devote themselves primarily to quality stockbreeding. 475

The industrial targets of the Five-Year Plan were modest, but not unimportant. Apart from raising Mongolia's coal production to over half a million tons, it provided for the extension of the food and light industries of the country. The most important industrial plants of Mongolia are the 'Choibalsan Kombinat', in Ulan Bator, which supplies shoes, underwear and clothing of European style to the urban population, and the highly mechanized meat factory which is called after Stalin. Output increase of these two plants was an important item of the Five-Year Plan. The Mongol workers staffing these and other enterprises, far from constituting the political basis of the régime, which they ought to be doing according to Leninist theory, are a backward element that causes considerable uneasiness to the Revolutionary People's Party. Many of the so-called industrial workers of Mongolia have only just abandoned their nomadic way of life. In 1947, of all industrial workers, 35 per cent had less than one year of factory work to their credit. In these circumstances one can well imagine that labour discipline is still very low. 185 [295] [253] [464]

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THE DEATH OF CHOIBALSAN

643 177 The M.P.R. is copying the Soviet Union not only in fundamental institutions, such as the constitution and the Five-Year Plan, but also in matters of detail. Choibalsan, for instance, imitated Stalin in every respect. When, in 1939, the Soviet Government introduced Stalin Prizes for literature, art and inventions, the Mongol Government very soon afterwards created 'Choibalsan Prizes'. The Mongol constitution is officially referred to as the 'Choibalsan Constitution', despite being, as we have seen, only a free translation of the 'Stalin Constitution' of the U.S.S.R. At elections to the Mongol Parliament, Choibalsan appeared as the candidate of the 'Choibalsan constituency of Ulan Bator', in the same way as Stalin usually stood as candidate for the Stalin constituency of Moscow.

208 177 643 There is no evidence that Choibalsan himself started this cult out of personal ambition. It is more likely that the initiative for it lay with the Mongol Revolutionary People's Party, or even with the Soviet Government. Both may have wanted to consolidate the pro-Russian trends in Mongolia by creating a mystique around a 'Fuehrer'. But the moment came when Moscow and the Russian Party in Ulan Bator probably regretted the almost complete identification that had existed since 1938 between Choibalsan and the Mongolian régime. This was when Marshal Choibalsan died in Moscow on January 26th, 1952. His death seems to have thrown the country into considerable confusion. It certainly took four months before a successor was appointed, in the person of the Secretary-General of the Party and first deputy premier, Tsedenbal. Before the problem of Choibalsan's succession was settled, the Mongolian Revolutionary People's Party organized a big propaganda campaign popularising the Soviet Union with the help of lectures, exhibitions, cinema shows, and the opening of Russian language courses. Also, the Grand National Khural, was summoned to send a letter of allegiance to Stalin. The entire campaign was to convey to the people that Choibalsan, although an object of great veneration during his lifetime, was only a gifted pupil of the Soviet generalissimo. This was also more or less the tenor of the speech which Tsedenbal delivered at Choibalsan's funeral, a speech which was very largely inspired by the one which Stalin had made in 1924 at Lenin's funeral.

The real historical importance of Choibalsan for Mongolia is difficult to assess, but it is fairly certain that, rightly or wrongly, some of the most remarkable reforms which took place in his country will be for ever associated with his name.

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THE CULTURAL REVOLUTION

Between 1940 and 1950 it was not only the economic and political structure of the M.P.R. that underwent many changes; the health services and the cultural life of the country were also 'revolutionized'. During this period the number of hospitals in the country increased from 17 to 50, that of medical and first aid posts from 157 to 421, that of chemist's shops from 6 to 63. In 1940 there was only one maternity home in the country, whereas in 1950 there were over 100 of them.[41]

As far as education was concerned, Mongolia boasted 412 schools in 1949 with 60,000 pupils and 3,000 teachers (against 417 teachers in 1940). The country had in 1949, furthermore, 14 technical schools and 345 libraries and reading rooms. Since 1942 the M.P.R. has possessed a State university; it has a musical and dramatic theatre, and a new theatre was opened in 1950.[42]

The number of newspapers increased from ten in 1940 to twenty-seven in 1950, and that of journals from eight to sixteen.*

The increase in the number of schools and newspapers was the natural consequence of the growth of literacy in the M.P.R. At the time of the Mongol National Revolution, only 6,000 people in the country were able to read and write. This was less than 1 per cent of the total population. In 1947, 42 per cent of the adult inhabitants of the country were literate and in 1951, 87 per cent.

A decisive turning point in the literacy campaign was the introduction of the Russian alphabet decreed by the Central Committee of the Mongol Revolutionary People's Party and the Mongol Government on March 25th, 1941. Until then the Mongol language had been written in the vertical ancient Mongol script, or, since 1931, also in Latin characters. The decree of March 1941 was inspired by a similar decree which had been issued in Buryat-Mongolia two years earlier, as well as by identical measures taken in other Asiatic Republics of the Soviet Union.† As the M.P.R. is formally outside the Soviet Union, its Government had to be more explicit in justifying the new cultural revolution than the Soviet

* The Mongol press is organized completely on the Soviet pattern, and even the titles of the Moscow newspapers are imitated. The three principal newspapers published in Ulan Bator are the organ of the Mongol Revolutionary People's Party, *Unen* (meaning 'Truth' just as *Pravda* means 'Truth'), *Zaluchudun Unen* or 'Truth of the Revsomol', which corresponds to the *Komsomolskaya Pravda* in Moscow, and the organ of the Mongol army, *Ulan Odo*, the exact translation of the title of the newspaper of the Red Army, *Krasnaya Zvezda* ('Red Star'). As in Moscow, the Party in Ulan Bator publishes a periodical, *Propagandist*, and the leading Mongol literary journal is named in the same way as is the Moscow illustrated *Ogneyok* ('Little Fire').

† In Uzbekistan, the Cyrillic alphabet came into force in May, 1940, and in Tadzhikistan in June of the same year. In Kirghizistan and Kazakhstan, it was introduced in the schools in September, 1941.

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185 Republics of Central Asia needed to be. The Mongol decree stated
212 first of all that the Latin alphabet lacked certain signs essential for the
177 transcription of the Mongol language, and was thus unsuitable. There were, of course, other considerations which were more important in prompting the 'reform', particularly the necessity of a further Mongol-Russian *rapprochement*. The decree made this point very clearly. It said that most of the skilled personnel employed in various branches of Mongol economy had received their training in Russia. It mentioned that the revolutionary literature, essential to the Mongol people, was written in the Russian language, and it emphasized very frankly that the further cultural development of Mongolia was possible only through the absorption of Russian culture.[43]

This was an open admission that the growth of literacy was to be used for the superimposition of a Soviet Russian culture, and not for the development of an authentic and original Mongol cultural life. No immediate action followed the publication of the decree on the Cyrillization of the Mongol script. The new Mongol orthography was not ready until 1946.[44]

MONGOL LITERATURE

538 After the introduction of the new alphabet, State control over Mongol
626 literature was tightened, but a severe censorship had already been in existence for a long period. In the early years of the M.P.R. there had been quite a few Mongol writers who had tried to take an independent line, and who had defended the cause of a Mongol literature standing outside party politics. These writers were very soon denounced as representing the interests of feudal circles, the trading bourgeoisie, and foreign intelligence services. They were also charged with stirring up disagreements between the nationalities living in the M.P.R., and with attempting to sever the ties between the latter and the Soviet Union.[45] This group of anti-Soviet writers (Buyan-Nekhe, Shi-Ayushi, Idam-Surun and Radia-Bazar) was ultimately liquidated after a prolonged and sharp ideological struggle between the protagonists of so-called 'oriental symbolism', and the representatives of 'revolutionary realism', the counterpart of socialist realism in the Soviet Union. It was easier to destroy the 'reactionary' trends in Mongol prose and poetry than to build up a new 'realistic' Mongol literature. This can be gathered from the statements by Soviet Russian critics who are as outspoken in denouncing the alleged mistakes of Mongol writers as they are in exposing the 'shortcomings' of Buryat and Yakut literary works. Soviet criticism of Mongol literature is primarily concentrated on the neglect by Mongol authors of contemporary themes. The Soviet journal *Zvezda* complained, for instance, that certain Mongol poets depicted life

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as if the revolution of 1921 had never taken place, and as if the people had not changed since then.[46] Another Soviet literary journal, *Oktyabr*, expressed regret at the absence of Mongol works about the 'new (Mongol) man, and Mongolia's fight for peace'.[47]

Greater uneasiness has, however, been shown in Moscow about certain nationalist tendencies in Mongol literature. The latter have been fairly strong in the post-war years, and the Mongol Government has had to take several measures to suppress them. To achieve a greater measure of streamlining, the Government organized a 'Union of Mongol Writers' on the pattern of the 'Union of Soviet Writers'. Its first congress in spring, 1948, adopted a statute which made it the duty of every writer to 'participate in the ideological transformation and education of the toiling masses in the spirit of the great ideas of the Mongol Revolutionary People's Party, and in the spirit of socialism'. Mongol writers continued to commit ideological offences even after the foundation of the new body. The Central Committee of the Party therefore considered it necessary to issue its decree of December 31st, 1949, which initiated a large-scale campaign against heretics. The decree admitted that 'nationalist ideas hostile to Marxism-Leninism, and the programme of the Party' were still reflected in literature and art as well as in the teaching in schools and educational institutes. The decree stated in particular that there was too much bias in favour of Mongol feudalism to which the school curricula for history and literature devoted an almost exclusive attention. The decree constituted a further attempt to 'debunk' various outstanding figures of Mongol history, and dealt once again with the problem of Genghis Khan, which had already played a considerable part in the purge of 1937–38. Some writers had glorified the military marches of the great Mongol khan, and the decree had to remind them sharply that these marches had led to nothing but robbery, and that Genghis Khan himself was an 'oppressor and strangler of the Mongol people'.[48] This argument must have been unconvincing to Mongol intellectuals who could see the cult of Ivan the Terrible, surely an oppressor and strangler of the Russian people, encouraged in Soviet Russia.

Another Mongol national hero, Tsoktu Taidzhi, was dethroned by the same decree. This political leader and poet of the seventeenth century, who is much venerated in Mongolia, led the Mongols in a war against Manchuria. For a long time the Mongol Government not only tolerated the cult of Tsoktu Taidzhi, but even actively contributed to it by arranging the production of a film dealing with his life and deeds. The film had its première in the autumn of 1945, and was at first considered to be one of the most outstanding artistic achievements of Mongolia. The December decree of 1949, however, condemned the film because it implied that there were good, as well as bad, feudal lords.

As historical themes are becoming increasingly taboo, and as non-

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political literary works are undesirable, Mongol poets and writers have to devote themselves to those topics in which the Mongol Revolutionary People's Party and its Soviet protectors are interested, for instance, the 'great friendship between the Soviet and Mongol peoples'. Works falling under this heading include novels and poems extolling the Soviet-Mongol comradeship in arms in the fight against Japan, particularly in the battle on the Khalkin-Gol river; and expressions of admiration for Russia's fight against Hitler. Another theme of Mongol literature is the glorification of the 'great leaders', Lenin, Stalin, Sukhe Bator and Choibalsan. During Stalin's lifetime the cult of his person was as effusive in Mongolia as in the Soviet Union. One poet, Lubsan Kurch, described Stalin as 'the wisest man', another, Puntsuk, called him 'the symbol of happiness of the people', and Damdin-Surin, the most official of all the official Mongol poets, referred to him as 'our father'.[49]

Finally, literature is taking shape in the M.P.R., which is more or less identical with the 'Five-Year Plan literature' of the Soviet Union. It pays tribute to outstanding cattle-breeders, and to the shock-workers of Mongolia's new industrial enterprises.

More important than the still rather small original Mongol literature are the translations from other languages. The selection of books for translation into Mongol is a highly responsible task. How should it be solved, and how has it been solved? The great Russian writer, Maxim Gorky, thought a great deal about this problem and the result of his reflections were contained in a letter which he wrote to Mongol writers in 1925. This is what Gorky told them:

> 'The propagation of the principle of activity would be for your people the most useful thing of all. Active relationship to life is at the bottom of all the marvellous things which Europe possesses and which are worthy of being adopted by all races. Buddha taught that desire is the source of suffering. Europe is ahead of other peoples of the world in the field of science, arts and technical progress just because she was never afraid of suffering and always desired to improve on what she already had. Europe was able to stir in the masses of her people, the longing for justice and freedom, and for that alone we must forgive her a great number of sins and crimes. I think, in acquainting the Mongolian people with the European spirit and the aspirations of European masses in our times, you should translate those European books expressing more clearly than others the principle of action.'

Gorky wanted revolutionary European spirit, but none the less European spirit, propagated in Mongolia. What the Soviet régime brought to the Mongols was less europeanization than spiritual sovietization and russification. Between 1925 and 1948, 227 literary

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works were translated into Mongol, including 104 works by Soviet authors, 80 by pre-revolutionary Russian writers and poets, and 43 by authors of all other nations, including, apparently, a number of communists and near-communists.[50] 538 177

The works of Soviet authors translated into Mongol included amongst others the following: Vsevolod Ivanov, *Armoured Train* 14–69 (a play about the Civil War in the Far East); Nikolay Ostrovsky, *How Steel was Tempered* (a novel about Soviet youth during the first few years of communist rule); Aleksandr Fadeev, *Young Guard* (the story of a Komsomol underground organization in the rear of the Nazi army), Aleksandr Korneichuk, *Platon Krechet* (a play about the new Soviet intelligentsia); Konstantin Simonov, *Russian People* (a play about the Russian resistance against the Nazi invaders); Dmitry Furmanov, *Chapaev* (a novel about the famous hero of the Russian Civil War).

The other works which had the privilege of translation into Mongol dealt with similar themes and were of similar ideological content, but some are of less literary value than the ones mentioned. The translated works also include the Communist Manifesto of Marx and Engels, Stalin's *Problems of Leninism*, and the *Short History of the Communist Party of the Soviet Union.*

THE MONGOL THEATRE

Russian influence has also dominated the Mongol theatre, at least since the beginning of that more active Soviet interference in the affairs of the M.P.R., which started in 1928. Until then, Chinese plays in Mongol translation were still performed. After the Seventh Party Congress of 1928, the Mongol Government disbanded the 'reactionary right wing' drama circle of Ulan Bator, and founded a new one which described itself pompously as 'Central Drama Circle bearing the name of the Central Committee of the Revolutionary People's Party and of the Revolutionary Youth League'. At the same time it was decreed that all plays had to pass through Government censorship, and that in future no play could be performed which was devoid of 'revolutionary ideas'. The Mongol Theatre thus became, first and foremost, a propaganda instrument, putting across the party line of the moment.[51] 536 626 545

The situation changed to some extent in the late 'thirties', when a number of plays, which were based on Mongol folklore were performed and enjoyed great popularity. A case in point was the play *The Three Sharaigol Khans*, which showed the fight of the Mongol national hero, Geser, against the forces of darkness personified by the three khans. The play, which was first performed on the occasion of the twentieth anniversary of Mongolia's independence in 1941, dominated the Mongol stage for three years but was then suddenly rewritten. The main theme [186]

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the fight of light against darkness, was eliminated and the action of the play was almost entirely confined to battle scenes.[53] The play in its second version was produced by a Russian Jewish producer, Rabinovich, in co-operation with the Mongol Oyun. The music was composed by a Russian, another Russian was in charge of décor, the choreographer, too, was Russian. No wonder that there was little genuine Mongol atmosphere in the would-be folklore play. Even the official organ of the Mongol Revolutionary People's Party, *Unen*, stated that the specific features of Mongol national customs had been neglected in the play, and that the producers in the Mongol Theatre should study them more carefully.[53]

MINORITIES IN THE M.P.R.

The M.P.R. is ethnographically as little homogenous as any Asiatic Soviet Republic. Although the Khalka Mongols form the large majority, there are quite a number of minority groups in the country. About the relative strength of the dominating nationality and the minorities, Soviet specialists on Mongolia have produced slightly conflicting statements. There is not even full agreement between the authors of two monographs which were published in the same year, in 1948. Murzaev, whose work was published by the Institute of Geography of the All-Union Academy of Sciences, stated that the Khalka Mongols formed 70 per cent of the 850,000 inhabitants of the M.P.R. The other author, Tsapkin, believes that they account for 80 per cent. Murzaev gives the strength of Outer Mongolia's minorities as follows: Dyurbets and other Western Mongols – 7 per cent; Dariganga (Eastern Mongols) – 2 per cent; Kazakhs – 3 per cent; Tuvinians – 3 per cent; Buryats – 3 per cent. Tsapkin lists the same minorities, and gives them slightly different percentages: Kazakhs – 3·5 per cent; Dyurbets – 3·1 per cent; Buryats – 3·1 per cent; Dariganga – 2·2 per cent; Tuvinians – 2·1 per cent; and 'Others' – 6 per cent.[54]

Neither of the two Soviet authors gives the relative strength of the two minorities which are politically the most important ones, the Chinese and the Russians. On the eve of the foundation of the M.P.R., the Chinese constituted a fairly strong element, even from the merely numerical point of view. A Bolshevik expert on Mongolia, Ivan Maisky, who later became a distinguished diplomat, estimated in 1919-20 that out of a total population of 647,000 there were then as many as 100,000 Chinese. The Chinese formed the majority of the urban population of Outer Mongolia which Maisky estimated at 140,000.[55] A few years later, in 1930, the Chinese numbered 50,000 according to authoritative Soviet sources, and accounted for roughly 6 per cent of the total population of the M.P.R[56].

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THE MONGOL PEOPLE'S REPUBLIC

It seems that the Chinese are still forming a not unimportant community in the M.P.R. and that a substantial section of the young working class is recruited from them. The Chinese working class element in at least numerous enough to warrant the formation of a Chinese section within the Mongol trade union organization, and the publication of a Chinese newspaper, the title of which has been translated as *Workers' Path*. Chinese are also engaged in petty trading and horticulture.[57]

As to the Russian ethnical group in the M.P.R., this consists not only of people who work as experts and advisers in the capital and other urban centres, but also of agriculturalists in the northern districts of the Republic. In 1921, there were 5,000 Russians in Mongolia and in 1930 about 30,000. Today the Russian element is still in all likelihood, smaller than the Chinese. The aggregate strength of the 'peoples of the Soviet Union' in Outer Mongolia is, however, very nearly 10 per cent of its total population. The most important of them are the Kazakhs who have a special national Kazakh aimak or, as it is officially called, the Bayan-Ulegei Aimak where the Kazakh language is used in administration and education. The Bayan-Ulegei Aimak is situated in the westernmost part of the M.P.R., and is 18,000 square miles in size. Tuvinians and Buryats live in the northern aimaks of the M.P.R. in the neighbourhood of the Tuvinian Autonomous Province and the Buryat-Mongol A.S.S.R. respectively. In addition, there is a small Uzbek minority in the town of Kobdo, which is situated in the western part of the Republic.

In the past, the Soviet Union intervened on several occasions in favour of the minorities. In 1931, in particular, the Government circles were accused of 'Khalka chauvinism', not so much in their relations towards the 'peoples of the Soviet Union', but because of their attitude towards such Mongol groups as the Dyurbets.[58]

In future, the Chinese People's Republic may also take an interest in the minorities of the M.P.R. Just as the Buryats or Tuvinians in the northern aimaks are naturally gravitating towards their kinsmen in the Soviet Union, there are groups in the south, such as the Dariganga, who maintained in the past the closest contact with Inner Mongolia and even China proper.[59] These contacts had to be broken off in the period between the wars but the emergence of a communist China has created a strong case for their resumption.

RUSSIA, CHINA AND MONGOLIA

The change of régime in China, the replacement of a decaying State by a vigorous and potentially expansionist system of government, has put the problem of Mongolia into a new light. Soviet Russia has certainly

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won the first rounds in the battle for Mongolia. The Soviet régime has come very near to making the aim of the Mongol nationalists – the unification of all Mongol territories in one independent national state – a utopian impossibility. Both by their political and economic integration into the U.S.S.R., and by their spiritual russification, the Mongols of Outer Mongolia have been cut off from the Mongols of Inner Mongolia and Jehol. Even from the point of view of communications, Outer Mongolia is now connected with Russian Siberia, instead of being linked with the Mongols of the Chinese Republic. The first Mongol-Soviet railway line was constructed in 1938, and the second, the Stalin Railway Line which runs from Ulan Bator to the Soviet border, was opened in 1949. Thus, everything has been done to make a change in the orientation of Outer Mongolia as difficult as possible. Nevertheless, the Russian protectorate is not the only future which can be visualized for the M.P.R. for the presence of a communist China on the borders of Outer Mongolia means a challenge to that protectorate. The political monopoly which Soviet Russia has tried to create for herself in Mongolia during many years was threatened for the first time in 1950 when a Chinese Embassy was opened in Ulan Bator. This event was followed up by the visit of a Mongol Government delegation to Peking in 1952, the conclusion in that year of a Sino-Mongol Agreement on economic and cultural co-operation and trips to Mongolia of various groups of Chinese communists, particularly representatives of arts and literature. All this could not fail to make a considerable impression on the Mongols who, for such a long time, had been completely cut off from any contact with the non-Russian world. If China goes a step further and manifests a more active interest in Outer Mongolia, she is sure to meet with a certain response. Indeed, as has been mentioned, the original programme of the Mongol People's Party provided for union with a revolutionary China, and according even to official Soviet sources there was a major pro-Chinese uprising in the M.P.R., as late as 1930.[60]

The Chinese communists have even obtained the promise that the Mongol question will not be solved without their participation. At the congress of the revolutionary organizations of the Far East, which took place in Moscow in 1922, Zinoviev said, on behalf of the Comintern and the Russian Bolshevik Party: 'I consider that the final settlement of the Mongol problem will only be possible at the moment when the Chinese themselves have liberated themselves from the yoke of their oppressors, when they have driven out of their country the imperialist soldiers of foreign nations, when revolution has been victorious. Only then, will the Chinese people be in a position to say that its fate is in its own hands. Only then will it be possible to put the Mongol question on a new basis whereby it is a matter of course that its final settlement will depend on the liberation movement in Mongolia itself.'[61]

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The fact that Zinoviev was later expelled from the Bolshevik Party and executed has, of course, no bearing on the matter. What he said about the right of a revolutionary China to participate in the solution of the Mongol problem was a true expression of Russian Bolshevik policy at that time, and it could still be considered as a binding promise. In point of fact, the Soviet Government did not abide by the pledge which Zinoviev had given. It settled the Mongol question, from its own point of view finally, at a time when the Chinese had not yet liberated themselves from 'foreign oppressors', to use the Soviet jargon. It might even be said that the U.S.S.R. has shown a peculiar haste in concluding the agreement of 1945 with the weak bourgeois Chinese State of the Kuomintang, in order to put an accomplished fact before a new revolutionary and more vigorous China.

However weighty the economic and political reasons which might be advanced in favour of a continuation of the Russian protectorate over Outer Mongolia, there are other, perhaps even more convincing, arguments which the new China could put forward against it, arguments of a racial and geographical nature. One day the Chinese may ask whether it is logical that the Asiatic Mongols should be ruled from European Moscow, rather than from the much nearer Asiatic Peking.

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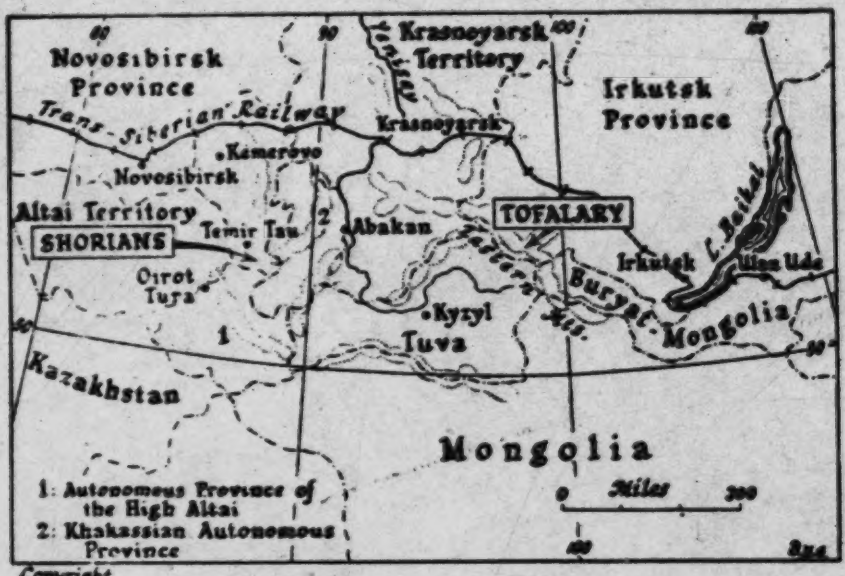

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5. THE TUVINIANS AND THEIR COUSINS

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VI

THE TUVINIANS AND THEIR COUSINS

I. THE REPUBLIC OF TUVA

Tannu Tuva, or more simply, Tuva, would be a state of medium size if situated in Europe, but in the vast space of Asia it is a mere speck. Tuva, known under its Mongol name of Uriankhai until 1922, deserves more attention than its 100,000 inhabitants* may seem to justify, not only because of its economic potentialities, but also as a classic example of Russian and Soviet methods of expansion.

Being an almost complete *terra incognita*, Tannu Tuva offers an interesting field for studies in history, geography and popular customs. From a political point of view, Tuva deserves interest for the fact that Russia annexed the territory twice within thirty years, without the outside world paying the slightest attention. In both cases Russia made use of a European war to settle the Tuva problem to her own advantage, the first time in 1914 by proclaiming her protectorate over Tuva, the second time in 1944 by discreetly transforming the People's Republic of Tuva into an administrative unit of the U.S.S.R.

Tuva, whose size various geographers have estimated at between 50,000 and over 75,000 square miles, is by no means an artificial creation. On the contrary, Tuva is a natural fortress, a kind of Asiatic Switzerland, bordered by two powerful mountain chains – the Sayan in the north, and the Tannu Ola in the south – separating the country, which forms the headwater region of the Yenisey, from both Siberia and Mongolia.

THE FIRST RUSSIAN ANNEXATION

Uriankhai became a political issue when Russians and Chinese signed the Treaty of Peking in 1860. By this treaty, Russia acquired commercial rights for Russian merchants, which excluded, however, the building of permanent Russian settlements. The first penetration of Russian merchants into Uriankhai, carried out on the basis of the Peking Treaty, led to such incidents as the burning down of Russian stores by the Chinese.

* According to Russian sources the population of Tuva was 64,000 in 1913, 70,000 in 1926, 86,000 in 1939 and 95,000 in 1941.

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A mixed Russian-Chinese commission investigated the situation on the spot in 1869, and, as a result, the Chinese had to pay an indemnity, while the Russians reiterated the pledge that Siberian colonists would not settle in Uriankhai. Russian traders, when in Uriankhai on business, were forced to live in tents and boats to demonstrate the temporary character of their presence in Chinese territory. These limitations were brushed aside by a new treaty concluded in 1881. China then allowed the Russians to establish permanent settlements not exceeding 200 people in one place. The Russians were even permitted to build churches and cemeteries, and to sell arms and spirits, which until then had been excluded from trading.

Subsequent developments confirmed the original Chinese fears that the progress of Russian colonization would ultimately endanger Chinese sovereignty over Uriankhai. Indeed, Russian colonists pouring into the area in the 'nineties' of the nineteenth century, and in the first years of the twentieth century, were preparing the ground for the Russian civilian authorities. These colonists consisted of greedy traders trying to rob the natives, and of hard-working Russian peasants, including the god-fearing 'Old Believers', members of a religious sect which promoted the success of Russian colonization in many parts of the Czarist Empire. The Russian colonists immediately acquired fishing and grazing rights which neither the Chinese nor the Tuvinian natives, who had completely ignored fisheries until the arrival of the Russians, could effectively challenge. Caruthers indicated that a *de facto* Russian protectorate existed over the whole country before the annexation was made formal. Russian authorities living in the Siberian frontier village of Ussinskoye carried out official duties among the colonists of Uriankhai before the First World War, exactly as if the area belonged to the Russian Empire.[1]

The Government of Imperial Russia, much more hesitant in questions concerning Russia's territorial aggrandisement than Stalin's Russia, was full of doubts as to Uriankhai. As late as 1911, the Russian Council of Ministers rejected the annexation of the territory, and only in 1913, after the establishment of the Russian protectorate over Outer Mongolia was Russia's political penetration into Uriankhai officially decided.

The first formal incorporation of Uriankhai into Russia in 1914 resulted in increased Russian colonization. 3,500 new colonists arrived in Tuva between 1914 and 1917, and the beginning of a new Russian era in the history of the little country was marked by the foundation of a township, Byelotsarsk – the 'Town of the White Czar'.

The Stalinist conception of Russian history refuses to consider Czarist Russia's annexation of Uriankhai as a logical outcome of economic infiltration and colonization. The official Soviet thesis is that the Tuvinian people have linked their fate to that of the Russian people, and that progressive Tuvinians 'always relied upon the help of the

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Russian nation in the struggle for a better future'. This is how the Secretary of the Communist Party of Tuva, Salchak K. Toka, described in 1946 the first annexation by Russia: '... the most far-sighted political leaders of the Uriankhai area, reflecting the mood of the arats, approached Russia with the request that she would take Tuva under her protection. In 1914 Tuva was taken under the protection of Russia. This was the most favourable solution of the problem'.[2]

The true history was somewhat different from Toka's statement. The Tuvinians feared all strangers and disliked the Russian newcomers as much as they disliked their former Chinese masters. They spoke of the Chinese only as 'yellow devils', and their attitude to the European colonists can be characterized by the Tuvinian saying, 'The Russian is not a man'.[3] In the early period of colonization, the Tuvinians carried out numerous raids on Russian factories, for which they were heavily punished by the Chinese officials. Later the Russian authorities themselves dealt with such cases of banditry, and took the culprits to the prison at Minusinsk, the nearest Russian town. There may have been a few Tuvinians who actually favoured Russian annexation, but the young Soviet State did not recognize them as spokesmen of the true aspirations of the Tuvinian people. In the view of the Soviet People's Commissar for Foreign Affairs, Chicherin, the idea of Tuva's annexation by Russia was fostered only by 'cunning Czarist officials'. Accordingly, in a statement of September 23rd, 1921, Chicherin declared the annexation of Tuva illegal, and proclaimed that the Workers' and Peasants' Government of Russia had no designs of any kind on the territory,

TUVINIAN PAN-MONGOLISM

Chicherin's statement was a solemn denunciation of all Russian territorial claims on Tuva, but it was not the birth certificate of the Tuvinian People's Republic (T.P.R.). Although in later years Tuva dated its independence back to 1921, Russia failed to acknowledge its independence until the autumn of 1925. The Soviet Government hesitated to commit itself with regard to Tuva out of consideration for the Mongols, who had hoped that the Tuvinians would eventually join the Mongol People's Republic. As Mongolia was in a permanent state of internal chaos, the Soviet Government ultimately thought it safer that Tuva should link its fate with the U.S.S.R., rather than with the M.P.R., the more so since the number of Russians in the country was considerably larger than the Mongol minority. From 1925 onwards, the Soviet envoy in Tuva discouraged pro-Mongol tendencies, but these continued to exist in both the Government and the Tuvinian Revolutionary People's Party. In fact, there was every conceivable reason for the Tuvinian élite to look to Mongolia for cultural and political guidance. A Tuvinian

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A Tuvinian
191 national culture and literary language did not exist. Mongol, on the other hand, was the language of the few educated people of the country, and of the holy Buddhist books. Mongol was also the official language of the Tuvinian Government and of the Revolutionary People's Party. The minutes of its first congresses were taken down in Mongol, and the only newspaper of the country, *Unen*, was written in that language.

186 The first political leader of 'independent Tuva', the Prime Minister
648 Donduk, was an ardent pan-Mongolist. He felt that the so-called
643 political independence of the country would benefit only the Russians, and that geographical and political commonsense demanded the amalgamation of Tuva with the Mongolian People's Republic. 'The Tuvinian people', said Donduk, 'is small, poor and backward in the cultural respect. That is why it must be united with Mongolia.'[4] The ambitious plan of a Mongol-Tuvinian union could not be carried out but Donduk, in 1926, at least signed a Treaty of Friendship with the M.P.R.

186 Donduk and his principal associates were not only pan-Mongolists
659 but also devout Buddhists, and they insisted on a religious education for
648 the Tuvinian youth. In 1928, they even passed a law limiting anti-
668 religious propaganda and proclaiming Buddhism as the State religion of
661 Tuva. This was more than the Soviet Government could tolerate. The ideological cleavage between the Tuvinian leaders and the Kremlin became such that a conflict between the two was bound to break out. The Soviet envoy in Tuva, Starkov, was instructed to bring about the downfall of the Tuvinian régime. This was no easy task, for the Buddhist and pro-Mongol leadership enjoyed the confidence of the population, and could be removed from office only by a *coup d'état*. Moscow engineered the latter by making use of the differences between the old and the young generations in Tuva. The pro-Russian and pro-Bolshevik elements in the country first succeeded in getting control over the Tuvinian Revolutionary Youth League, the 'Revsomol', and with its help the right-wing chiefs were then ousted from the party itself in the summer of 1929. Otto Mänchen-Helfen, a German social-democrat, who as far as is known, was the only foreigner ever to have visited the T.P.R., asserted that the purge of 1929 was mainly carried out by five Tuvinian students. The Soviet Government had dispatched them to Tuva to assist the Russian envoy in restoring order. These five, who were graduates of the 'Communist University of the Toilers of the East' in Moscow, toured the Republic as commissars extraordinary, and expelled two-thirds of the party membership.[5]

THE CREATION OF A 'TUVINIAN CULTURE'

186 It was not enough to change the leading personnel of the T.P.R. The
656 pro-Mongol tendencies in Tuva could be eliminated only by the creation
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of a Tuvinian national culture. The birthday of this Tuvinian culture was June 28th, 1930, when the Government published a decree on the introduction of the Tuvinian Latin alphabet, which had been compiled by a commission of Russian scholars. The introduction of the alphabet was the beginning of a cultural revolution. It meant not only the end of the Tibetan-Mongol script in Tuva, but also the end of the Mongol language. The State Publishing House of Tuva ceased publishing Mongol literature, and turned out Tuvinian pamphlets instead. The Mongol newspaper, *Unen*, was bi-lingual Mongol-Tuvinian for nine months, and then switched over to Tuvinian altogether. The campaign for the new alphabet was carried out with great enthusiasm. In the capital of Tuva, Kyzyl (formerly Byelotsarsk), alone, twelve literacy courses were opened, and all Government Offices were transformed into class-rooms after working hours. The Tuvinian alphabet, the 'State script' as it was officially called, was not well received by everybody. The conservative, theocratical opposition tried to sabotage it by spreading all kinds of rumours. It was even asserted that the literacy classes were haunted by bad spirits, and, moreover, that the new alphabet was bad for pregnant women. The opposition was, not however, entirely unconstructive, for the opponents of the new alphabet tried to organize rival literacy classes, in which the Mongol script was taught. There was one other group in Tuva, which was not against the Tuvinian alphabet on principle, but which resented the fact that it was imposed by the Russians. In fact, a learned lama, Lobsan Dshigmid, had compiled a Tuvinian Latin alphabet in 1928, and a number of Tuvinians had started learning it. The Russian advisers of the Tuvinian Government rejected it, however, for philological reasons. This caused a great deal of bad blood among a section of the Tuvinian intellectuals, who asserted that the Russians had spoiled the spelling of their language.[6]

The Tuvinian literary language, which was made official on the insistence of the Soviet Government and its local plenipotentaries, was not identical with the Tuvinian language as spoken by the people. It contained a fairly large number of Russian words which became even more numerous later on, particularly after the replacement of the Latin by the Russian alphabet. The Russian words taken into the Tuvinian language included such political terms as: 'Soviet'; 'Bolshevik'; 'Party'; 'kolkhoz'; as well as the equivalents for 'bread'; 'garden'; 'school', and many others. The director of the Tuvinian Scientific Research Institute for Language, Literature and Art, pointed out that Tuvinian had borrowed not only from the Russian vocabulary, but also from Russian grammar.[7]

The man who, apart from Russian scholars, was primarily responsible for the emergence of the so-called Tuvinian national language, was the Party Secretary, Toka. No person in Tuva had done so much for the con-

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solidation of Russian influence. Toka was trained in Moscow, married a Russian girl, and in 1929 played a prominent part in the liquidation of the Buddhist and Mongol trends in the country. He was Minister of Education during the crucial months in which the language reform was carried out. Finally, it was only natural that Toka became the founder of a Tuvinian literature. One of his first works was a play with the not very exciting title, *Three Years as a Cell Secretary*. It depicted the class struggle in Tuva, and 'the beastly hatred of the enemies of Tuva's revolutionary society'.[*] Most of the 'Tuvinian' literature consisted not of any original contributions but of translations of Gorky, Pushkin, Tolstoy, Mayakovsky, Lenin and Stalin.

It was not only Russian cultural influence that increased in Tuva. The Russian colonists acquired an ever increasing influence over the destinies of the small country. As early as 1927 they numbered 12,000 or almost one sixth of the entire population of the T.P.R. Until the end of the 'twenties' the Russians of Tuva had not been allowed to interfere with internal Tuvinian politics. They had had the status of privileged foreigners enjoying exterritorial rights and formed an organization which called itself 'Self-governing Colony of Russian Toilers' ('*Russkaya Samoupravlayushcheisya Trudovaya Koloniya*' – R.S.T.K.). A treaty concluded between this Soviet Russian colony and the Tuvinian Government protected the economic interests of the local Russians. Following the *coup d'état* of 1929, the situation changed. The Russians were given full citizens' rights. They became entitled to representation not only in the Grand Khural, the Tuvinian National Assembly, but also in the Little Khural, the principal legislating body. This does not mean that all Russians in Tuva sympathized with the Soviet and left-wing Tuvinian régimes. The land confiscation measures introduced in 1930 even led to an uprising of a section of the Russian peasant colonists. It broke out almost simultaneously with a revolt of the Tuvinian cattle-breeders. Both risings were suppressed but they forced the Tuvinian Government and its Soviet advisers to take up a more moderate attitude with regard to the ownership of land and cattle. A number of Russian peasants living in Tuva were able to keep individual farms until the end of the Second World War.

THE SECOND ANNEXATION

On August 17th, 1944, the 'Little Khural', which comprised only thirty people who were more or less identical with the members of the

[*] Toka was the first Tuvinian to be awarded a Stalin Prize for literature. The Prize was awarded in 1951 for the autobiographical novel *Slovo Arata* – 'The Word of the Arat'. A further great honour was bestowed on him at the Nineteenth Congress of the Communist Party of the Soviet Union. He was made an alternate member of the Central Committee, from which representatives of the smaller nationalities are usually excluded.

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Central Committee of the Tuvinian Revolutionary People's Party, took the 'historic decision' to ask for Tuva's admission into the U.S.S.R. Two months later, the Presidium of the Supreme Soviet of the U.S.S.R. granted this request. The T.P.R. became the Tuvinian Autonomous Province of the R.S.F.S.R.

The incorporation of Tuva into the U.S.S.R. put an end to such formal attributes of sovereignty as the country had possessed, its special criminal code, its constitution of 61 articles, its postage stamps, national flag and coat of arms. The Tuvinian Government which had as many as seven ministers, including one for foreign affairs and one for war, was disbanded and so was the 'People's Revolutionary Army'. The Mongol Legation in Kyzyl was closed down. The Russian rouble replaced the Tuvinian currency, the 'Aksha'. There was no need to abolish the Tuvinian Latin alphabet for it had already been abandoned for the Russian script in July 1941.

As a logical consequence of the annexation, the Revolutionary People's Party was transformed into a provincial organization of the Soviet Communist Party. This was more than a formality. The Revolutionary People's Party, however much an instrument of Soviet policy, had been exclusively Tuvinian in its composition, and the Russian communists in Tuva had had a separate organization of their own. After the annexation the two organizations were merged into a single body which had over 4,500 members, a higher proportion of the population than in the rest of the U.S.S.R. Many of the Russian members of the amalgamated party were given important posts as party officials and administrators.

A list of leading personalities, published in 1949 on the occasion of the fifth anniversary of the Tuvinian Autonomous Province, showed that the following Party and State dignitaries were Russians or Ukrainians: the heads of the local branches of the Ministry of the Interior (M.V.D.), and of the Ministry of State Security (M.G.B.), the head of the Propaganda and Agitation Department of the Communist Party, the second secretary of the Tuvinian Party organization, the head of the education department of the Province, the public prosecutor and the two officials in supreme charge of agriculture. On the other hand, all the figureheads were Tuvinians, such as the chairman of the Executive Committee of the Provincial Council, the first secretary of the Communist Youth League, the first Party secretary and the president of the Provincial Court of Justice.[10]

The reasons prompting the second Russian annexation of Tuva may be summarized as follows:

First, Tuva was very rich in cattle. This made it desirable for the Soviet authorities to bring the country within the reach of Soviet planned economy. The cattle of Tuva were of particular importance

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233 for Russia in time of war, in the Russo-Japanese War of 1905, in the Civil War, and in the 'Great Patriotic War' of 1941–45. In the last-mentioned war alone, Tuva supplied 40,000 of her best horses, and 600,000 head of cattle.

316 Secondly, Tuva forms a national fortress guarding the approaches to
327 the Kuzbass (Kuznetsk Basin), one of the main coal and steel producing centres of the Soviet Union. It was preferable to have this fortress inside the Soviet Union than to grant it even a sham sovereignty.

135 Thirdly, and perhaps the most important point, Tuva has large deposits of metals and minerals, including gold (exploited by the trust, 'Tuvzoloto'), platinum, and even uranium. It may or may not be a coincidence that Tuva, with its uranium deposits, was annexed to the Soviet Union at a time when atomic research in the western hemisphere was heading towards its climax.

144 Fourthly, the Tuvinians are closely related to some small Turkic peoples living in Soviet Russia proper, to the west and north of the former Tuvinian-Soviet border. The peoples in question are the Oirots, Shorians and Khakassians.* Certain groups of the Oirots even refer to themselves as 'Tuba' or 'Tuva'. From the point of view of Oirot nationalists in particular, there was no reason why these peoples should belong to the Russian Empire instead of uniting with the Tuvinians into an independent State. As long as there was an independent Tuva, there was always the possibility that Oirots and Khakassians might gravitate towards that country. Also, for this reason, it was safer to have Tuva inside the U.S.S.R. Although the Oirots and Khakassians themselves were discouraged from stressing their racial connections with the Tuvinians, the Tuvinian communists made great play of these links, when propagating the union with Russia.

563 The territories occupied by the Shorians, Oirots and Khakassians
178 experienced a remarkable economic and cultural development under the Soviet régime. Nevertheless, their fate could hardly have been an incentive for the Tuvinians to join the U.S.S.R., for the recent history of the three nationalities offers a particularly striking example of the

*Another small Turkic people to whom the Tuvinians are closely related are the Karagasy, now called Tofalary or simply Tofy. They live on the north-eastern border of Tuva, near the frontiers of the Buryat-Mongol A.S.S.R. Although the Tofy are not more than 438 in number, according to the last available statistics, their history under the Soviet regime is interesting. In 1930, collectivization and denomadization measures were imposed on what was then the 'Tof National District.' All native households had to join one of three newly founded collective farms. Their managers were Russians who had unlimited powers and no knowledge of native economy. The local party and administrative organs, in a clumsy attempt to make collectivization more attractive, introduced strange 'premiums' for collective farms in the form of alcoholic spirits with the result that quite a number of natives died from alcohol poisoning. When this happened the higher administrative authorities at last intervened. They dismissed the incompetent party leaders of the Tof district and put them on trial. An official representative and later a whole working party were despatched to the Tof people. These emissaries, it is officially claimed, restored economic prosperity. (*Sovetsky Sever*, No. 2, 1934, pp. 95–6.)

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doom which small Asiatic peoples have to expect under the Soviet régime, as a result of ruthless industrialization and European colonization.

II. THE SHORIAN NATIONAL DISTRICT

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All three Turkic nationalities who live in the south of Central Siberia, near the Tuvinian border, enjoyed national autonomy during the inter-war period. Today this autonomy has become meaningless, both for Oirots and Khakassians, who are completely swamped by Russian immigrants, while the autonomy of the Shorians has come to an end even nominally.

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The Shorian National District was founded in 1929. It then comprised an area as big as Belgium, and the Shorians, numbering 16,000 people, seem to have been in the majority in the territory which bore their name. In 1931, the Shorians formed only 38.8 per cent of the population in the District; in 1938, only 13 per cent, and since then they have shrunk to an even more insignificant percentage. It was only logical for the Soviet Government to disband the Shorian National District altogether, and to make it, in 1939, a part of the Kemerovo Province, which provides the administrative framework for the 'Kuzbass'. The Shorians were outnumbered in their homeland chiefly by Russian and Ukrainian miners, whose arrival in Shoria was an economic necessity. Shoria, or High Shoria, as it is also called, supplies the iron-ore for the blast-furnaces of the 'Kuznetsk-Metallurgical Combine'. By the end of 1950, Shoria produced 2,000,000 tons of iron-ore a year, and it may be taken for granted that Shorian iron-ore has now supplanted the iron-ore which the Kuzbass previously received from the Urals. An attempt was made to associate the Shorians with this magnificent development of the mining industry of their homeland. Quite a number of them did become miners, and they exercise this new trade either in Shoria itself, or in other parts of the Kuzbass.

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It seems, at least according to official Soviet sources, that the industrial development of Shoria was facilitated by a number of Shorian hunters, who informed the Soviet authorities of the location of iron-ore deposits. Indeed, one of the richest ore mines of the area has been named after a Shorian who first discovered it.[12] The real story behind the discovery of the Shorian iron-ore mines is more involved. It has never been told in a straightforward way, but the well-known Soviet writer, Fyodor Panfyorov, has written a play which indicates that the Shorians were for a long time not very co-operative in their attitude towards the communist régime. Panfyorov's play, *When we are beautiful*, does not mention the Shorians by name; he refers only to an anonymous

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'small nationality'. However, there can be no doubt as to the identity of the latter, for the action of the play takes place in Temir Tau, a mining town in Shoria. One of the main themes of the play is the search for iron-ore, the 'red stone', as the Shorian hunters call it. The ore is badly needed by the local metallurgical plant. Geological expeditions are sent into the mountains, but they fail in their task. No sufficient iron-ore deposits can be found in the more easily accessible areas. The reason for this failure is the obstruction by the local population, described by the Party Secretary of Temir Tau as 'not a nation, only a handful of people'. He adds: 'We are convinced that they know where the ore is situated, but they don't tell us; they don't show these places to us. Somehow they are on their guard. . . They have no confidence in us. They fear us.'[12]

To state so bluntly that a small people has no confidence in the Soviet régime was an amazing and daring admission for a Soviet writer. No wonder that Panfyorov had great hesitation in publishing his heretical play. He started writing it in 1939, but its final version did not appear in print until thirteen years later. To make the play acceptable to the communist censors, Panfyorov had to invent a 'happy ending'. The spokesman of the mountain people suddenly drops his cautious attitude towards the local Soviet authorities, and, in the last scene of the play, tells the Party Secretary where the 'iron heart' of the mountains is to be found. This sudden *volte-face* sounded unconvincing. It did not save the author from bitter attacks by official Soviet quarters who reproached him with having distorted the 'friendship of the peoples' of the U.S.S.R. The Russian heroes of Panfyorov's play did, in fact, express some doubts about the meaning of this Soviet *cliché*, 'friendship of the peoples', in a case where it applies to the relations between the huge Russian nation and a small mountain tribe. As must be agreed, 'friendship' is hardly the right word to describe a process by which a small nation is absorbed by a large one, as in the case of the Shorians.

Today the Shorian nationality exists no longer, either politically or culturally. In addition to the suppression of Shorian territorial autonomy, attempts at building up something like a Shorian literary language have been virtually abandoned. All Shorians have become bi-lingual, and talk Russian everywhere except in their narrow family circle. But before the Shorians arrived at the present stage of lost national identity, they had to pass through all the various experiments which the communist régime has imposed on the culture of all Soviet nationalities. At first, they were encouraged to work out an alphabet for their language, taking the Russian alphabet as a basis. The first Shorian book in Russian characters was printed in 1927. Then, in 1930, the Soviet Government ordered the latinization of the Shorian script. A few years later, the Russian alphabet was again introduced. A number of works by Pushkin

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A Number of works by Pushkin
and Gorky have been translated into Shorian, as have some pamphlets on political and agricultural problems. This does not mean that a Shorian literary language is actually in existence. A Russian ethnographer, Potapov, said that the translators of Russian works into Shorian had to borrow all abstract terms from the Russian language. The literature thus created could not, therefore, be considered either Shorian or Russian.[14]

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III. THE AUTONOMOUS PROVINCE OF THE HIGH ALTAI

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Oirotia, the second Turkic territory on Tuva's borders, is even richer in minerals than Shoria. It contains manganese ore, iron-ore, silver, lead and wolfram. The exploitation of all these riches, as well as the development of the local timber resources, demanded a great deal of manpower, and resulted in the usual influx of Russian elements. During the first Five-Year Plan period, the percentage of Oirots in the Autonomous Province dropped from 41·8 to 36·4. During the second Five-Year Plan period and after, many thousands of Russians entered the country and changed the ethnographical balance still further to the detriment of the local people.

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As the Oirots are more numerous than the Shorians – they numbered 47,700 in 1939 – they are still granted the privilege of living in an 'Autonomous Province', where special provisions are made for the use of the Oirot language. But this Autonomous Province is no longer associated with the name of the Oirots. Early in 1948, the Soviet Government passed a decree that the 'Oirot Autonomous Province' was to be known in future as 'Autonomous Province of the High Altai', in deference to the wishes of the local Russian workers. On the same occasion, the capital of the Province, 'Oirot-Tura', previously 'Uala', had to give up its Oirot name. This was changed into 'Gornoaltaisk', or 'Town in the High Altai'. Even the name of the people was altered, although not by decree, but only in point of fact. Suddenly all Soviet reference books and text books dropped the word 'Oirots', and spoke of 'Altaitsy' instead. This was the very name which the Czarist authorities had given to the Altai people, and it had an imperialistic and chauvinistic flavour. All these changes of terminology were not only connected with the immigration of Russians into Oirotia, but were also aimed at inflicting a blow on a people which, despite its small numbers, had caused considerable difficulties to the Soviet régime. The ideological independence which the Oirots have shown *vis à vis* the communist State was fed by the memories of a heroic past. At one time, the Oirots were the terror of Central Asia. In the first half of the eighteenth century, they left

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their Western Chinese homeland, Dzungaria, invaded the Kazakh nomad states and other areas, captured Tashkent, and went almost as far as the Urals. In 1758, China practically wiped out the Oirots and abolished their State. Only a few thousand Oirots survived in the Altai mountains. Those who lived in the High Altai were subjects of both Russia and China until 1866, when Russian sovereignty over that area was finally established.

'BURKHANISM' – THE OIROT RELIGION

The more powerless and impoverished the Oirot people became under Czarist rule, the more did they cling to their ancient legends and traditions. So strong was the spiritual resistance against the colonizers that it led ultimately to the foundation of a new religion which was called 'Burkhanism' or 'White Faith'. This Oirot religion is very similar in character to the new religions which emerge from time to time in various parts of tropical Africa, such as the Kibangism and Kitawala, messianic creeds whose prophets forecast the end of European rule.

In the centre of the Oirot religion stood the legendary figure of Oirot Khan, a descendant of Genghis Khan, whom the Oirots considered their last great ruler. Oirot Khan was the Messiah who was supposed to free the Oirots from their plight under alien rule, and to lead them to a better life. Oirot Khan appeared on a white horse to the Oirot shepherd Chot Chelpanov in 1904, and gave him a very detailed message to the Oirot people, containing an entire code of behaviour, which was anti-Christian and anti-foreign. Oirot Khan demanded that his people must not maintain ties of friendship with Russians, that they must not eat from the same pot with Christians, and that they must call the Russians not 'Orus', but 'thin-legged people'. The alleged appearance of Oirot Khan, who predicted that Russian rule would soon end, caused a great deal of unrest among the Oirots. The Czarist authorities intervened, despatched punitive expeditions against them, and arrested the main protagonists of 'Burkhanism', including the initiator of the trouble, Chot Chelpanov.

On the whole, the Czarist authorities handled the problem of 'Burkhanism' in a liberal way. The trial of Chelpanov was conducted with great fairness. A progressive ethnographer, D. A. Klements, whipped up a great deal of public sympathy for the 'Burkhanists', and even induced several outstanding lawyers of St. Petersburg to take over the defence of the accused. This defence was conducted so convincingly and so skilfully that the proceedings ended with a verdict of not guilty for all defendants. In giving it, the court overlooked the political implications of 'Burkhanism', and considered the case entirely from a religious angle. This attitude, which is in striking contrast to the conduct

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136 779 654 661 of Soviet courts in similar cases, was the more remarkable since the Oirot Khan cult had acquired a very pronounced pro-Japanese bias in connection with the defeat of the Czarist régime in the Russo-Japanese War. Popular imagination identified Oirot Khan with 'Yepon Khan', the Japanese Emperor.

'Burkhanism' has confronted the Bolshevik specialists on nationalities policy with a difficult problem. Originally they hesitated to condemn the Oirot religion as 'reactionary'. 'Burkhanism' was, after all, a national liberation movement directed against 'colonial robbery, Christendom, and the Altai Church Mission'. As it was persecuted by the Czarist authorities, it was, *ipso facto*, entitled to a certain consideration on the part of the Soviet régime.[15]

Soviet indulgence towards 'Burkhanism' came to an end in 1933, when it was denounced as a creation of Chinese merchant capitalism, and of Mongol-Lamaist theocracy.[16] But at least 'Burkhanism' was challenged from a purely class and ideological point of view. After the Second World War, Soviet criticism of 'Burkhanism' assumed a more outspoken national Russian character. The 'Burkhanists' were then charged with attempting to sever cultural and economic ties with the Russians, and to exchange them for a Japanese protectorate.[17]

THE DREAM OF 'GREATER OIROTIA'

186 668 Oirot nationalism took forms other than the messianic 'Burkhanism'. After the Russian February Revolution of 1917, it appeared on the scene in a more modern attire, as one of the many movements for national autonomy and self-determination that sprang up all over the Russian Empire. The aims of this secular Oirot nationalism were formulated by the Oirot nationalist, B. I. Anuchin, at the 'Constituent Congress of the High Altai', which took place in February 1918 in the village of Uala. Anuchin demanded the creation of an Oirot Republic, including, apart from the Oirots proper, the Khakassians and Tuvinians. According to him, these peoples were one by origin, language and customs. If united, said Anuchin, they would form a 'great Asiatic republic', several times larger than Germany and France put together. The hundred or so delegates who attended the Constituent Congress of the High Altai were greatly impressed by the ambitious nationalistic programme which was submitted to them. They fully endorsed the plan for an Oirot republic, and decided that it should be formally proclaimed by a 'Kurultay',* which was to meet in a place on the Mongol-Russian border in June 1918. Until the summoning of the 'Kurultay', negotiations were to be conducted with Russia, China and Mongolia. Each of these countries was supposed to give up certain territories to the

* An ancient Turkic term for National Assembly.

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186 668 Oirot republic. China was to part with Dzungaria, the northern part of the Sinkiang province, Mongolia was expected to abandon the 'Mongol Altai', with all the territories inhabited by the Tuvinians, and Russia was to lose a considerable portion of her Altai region. Pending the implementation of the Greater Oirotia scheme, the High Altai was to be administered by the 'Karakorum Altai Administration' (Karakorumskaya Altaiskaya Uprava). This name is characteristic of the frame of mind of the Oirot nationalists. It reflects their romanticism that they should have identified their movement with Karakorum, the capital of Genghis Khan's Empire.

Considered retrospectively, the plan of Greater Oirotia might appear a romantic Utopia, but in 1918, when Russia seemed to disintegrate into a multitude of autonomous and independent states, the situation was different. The unification of the Oirot peoples appeared then as a possibility and, from the point of view of the Oirot nationalists, as a last chance to prevent the final triumph of russification in the High Altai. The Oirot nationalists had to realize, only too soon, that the gigantic struggle of Red versus White left no room for an independent Oirot policy. Therefore, they linked their fortunes with those of Admiral Kolchak, and put a whole 'Native Division' at his disposal. In December 1919, the coalition between 'Kolchakovtsy' and 'Karakorumtsy' was [665] defeated. Soviet power was established in the High Altai, and in February 1920 the first Communist Party and Komsomol organizations were set up in Uala.

In the following months, some of the most prominent people among the Oirots went over into the Soviet camp. The Soviet Government, consequently, proclaimed an amnesty in favour of the 'citizen-natives' of the High Altai, who had originally sided with the counter-revolution, but who had since then repented of their attitude.[18]

SOVIET POWER AND OIROT NATIONALISM

563 656 This change of heart by some leading Oirot nationalists was determined by their expectation that the Greater Oirotia State would be ultimately established with Soviet help. Indeed, during a short period, it seemed that the Soviet Government had decided to create a large Turkic autonomous territory in the south of Siberia. In December 1921, the official organ of the People's Commissariat for Nationalities stated outright that the question of the 'Autonomous Oirot-Khakassian Province' was to receive a positive solution.[19] According to the Oirot nationalist leader, Sary-Sen Kanzychakov, the Province was to be 75,300 square [162] miles in size, with 208,000 inhabitants, including 135,000 belonging to various Turkic nationalities. Between December 1921 and May 1922, the Soviet Government changed its mind about 'Greater Oirotia'. On

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THE AUTONOMOUS PROVINCE OF THE HIGH ALTAI

June 1st, 1922, the All-Russian Central Executive Committee issued a decree about the foundation of an 'Oirot ('Oirat' in the original spelling) Autonomous Province', which covered less than half the territory which was originally earmarked for the Oirot-Khakassian Province. Nevertheless, the Soviet Government made two important concessions to the Oirot nationalists. The first was that some of the more prominent nationalist representatives should be associated with the administration of the new autonomous unit. These included the above-mentioned Sary-Sen Kanzychakov, who became vice-president of the provincial administration. The other concession was the granting of official recognition to the terms, 'Oirots' and 'Oirotia'. 563 634 656

As everywhere else in the Soviet Union, the co-operation between communists and nationalists in Oirotia was only temporary. The Oirot nationalists seemed to have made various attempts to satisfy their aspirations towards national unity with other Turkic peoples, both inside and outside the Soviet Union. The concept of Greater Oirotia was still alive in the middle of the 'thirties'. Official Soviet sources asserted then that Oirot nationalists had exploited the situation of Oirotia as a border territory for their aims. This meant that they had been in contact with 'counter-revolutionary elements' of the Chinese Province of Sinkiang. At the same time, it was alleged that a 'counter-revolutionary nationalist group' had penetrated deep into the provincial administrative machinery, and also into the village councils. In connection with the liquidation of the 'counter-revolutionary conspiracy', the entire leadership of the Communist Party of Oirotia was dismissed for 'lack of vigilance', and for not fighting 'local nationalism'.[20] It is a fair assumption that Oirot nationalism with all its peculiarities, like the cult of Oirot Khan, survived not only the purges, but even the Second World War. Otherwise, the Soviet Government would hardly have taken the trouble to ban the 'provocative' term 'Oirot' in 1948. [668] [661]

THE 'HOUSE OF THE ALTAIWOMAN'

Soviet nationalities policy in Oirotia, whilst preventing the national liberation of the Oirots in the political sense, has done a great deal to raise their cultural level. On the whole, the development in the Oirot Autonomous Province has proceeded on the same pattern as in other autonomous territories of the U.S.S.R., but there is one institution which seems to be peculiar to Oirotia. This is the 'House of the Altaiwoman'. 563 177 874

These 'Houses' were founded only after the Second World War, presumably in 1950. There are six of them in various parts of the 'Autonomous Province'. In these 'Houses', wives and daughters of the native collective farmers of the High Altai are taught how to exchange

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native for Russian habits. A fairly good picture of the atmosphere at these Houses, and of the curriculum of the courses, is available from descriptions by Russian reporters who have visited them. In the 'House of the Altaiwoman' in Shebalino, the native women learn cooking in the Russian way, knitting and sewing. Child welfare, vegetable-growing, and poultry-breeding are also part of the course. Some women also learn to read and write. In addition, the 'House of the Altaiwoman' is the scene of intense political indoctrination. There are lectures on the 'fight of women for peace', and on the hydro-electric giants on the Volga, Don and Dnieper. There are also anti-religious lectures in which the native women are told 'the truth about the Shamans'.[21]

The training in the Shebalino 'House' lasts two months. In the Elikmonar House it takes only six weeks. The pupils for the latter are picked from among the most efficient women workers of the local collective farms. Since this is done on a compulsory basis, the villagers regard the 'Houses' with some scepticism. A Soviet reporter, who described the departure of a milkmaid to the 'House' in Elikmonar, could not help noticing the mixed feelings with which the Oirots looked at the innovation. He said it was not certain whether the other women envied the girl who went away, or whether they felt that the girl in question should envy those who stayed at home.[22] This is not to be wondered at. Every progressive measure in any colony encounters the resistance of the more backward groups of native society. British policy, for instance, faces the same difficulties in Africa with some of its mass education schemes. There is, however, one great difference. The British ultimately carry out these schemes with the help of the local nationalists; whereas the Soviet Government implements them by annihilating the latter.

IV. THE KHAKASSIAN AUTONOMOUS PROVINCE

The Khakassians have so far been more lucky than the Shorians or Oirots. Their Autonomous Province has not been abolished, nor has its name been changed to please the local Russian colonists. Nevertheless, the position of the 52,000 Khakassians, who live in a territory as big as Belgium and Holland combined, is precarious.

A Soviet propaganda article on the Khakassians said that they were doomed to extinction under the Czarist régime, but were saved by the Soviet Government.[23] In fact, Soviet critics were right in denouncing Czarist colonization for having relegated the Khakass people, or 'Minusinsk Tatars' as they used to be called, to areas where the soil and climatic conditions were unfavourable. Russian colonization in Khakassia under the Czarist régime reached its peak between 1840 and

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1850, when the population of the country increased by 25 or 30 per cent. Under the Soviet regime, Russian colonization assumed a much more powerful impetus. Within seven years – from 1926 to 1932 – the population of Khakassia increased by almost 100 per cent from 88,800 to 173,300. In 1944 the population was given as 270,000 and considering the small number of Khakassians, this meant that their share in the total population of the Province had dropped to below twenty per cent. The newcomers flocked primarily into the capital, Abakan, and into three workers' settlements – Chernogorsk, Kommunar and Saral. By the outbreak of the Second World War, these four places had more inhabitants than the country's entire population in 1926. This growth was in the first place due to the large coal deposits in Khakassia, believed to amount to between 17 and 20 billion tons. The country also produces gold and various rare metals.

The growing Russian influence in Khakassia met with protests even on the part of the native communists. In their meetings they used the slogan, 'Khakassia could do without Russians', which, however, was soon denounced as a manifestation of bourgeois nationalism. Some leading Khakassians went beyond mere verbal protests in their attempt to check the increase of the Russian elements. In the same way as the Oirot nationalists, they thought that the various Turkic peoples of Siberia would be in a better position to resist Russian pressure by joining hands and forming a single autonomous unit within the Russian Soviet Federation. Without consulting Moscow, some Khakassian Soviet officials started to negotiate with their opposite numbers in Oirotia and Kazakhstan for a unification of the Turkic peoples. Kazakhstan, as the largest country involved in these secret talks, was probably expected to assume a kind of protectorate over Khakassians and Oirots. The Moscow Communist Party leaders were informed in time of the counter-revolutionary pan-Turkic project. The nationalist promoters of the plan, who included representatives of the new Khakass Soviet intelligentsia, members of the Khakass Students' Club in Moscow, and graduates of the Khakass Teachers' training college, were purged in the middle of the 'thirties'.[34]

In the post-war period, there has been no evidence of any open trouble on the 'national front' in Khakassia but difficulties have arisen from the inferior constitutional status of the Khakass Autonomous Province. Like all other Autonomous Provinces of the R.S.F.S.R., with the sole exception of Tuva, Khakassia is not directly under the Council of Ministers of the Russian Federation, but under a territorial ('kray') administration. The territory to which it belongs has its centre in Krasnoyarsk. This administrative set-up has enabled the Krasnoyarsk territorial Executive Committee and the territorial Party Committee to practise a policy of petty interference in the local affairs of Khakassia.

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Dissatisfaction at the arbitrary attitude of the territorial authorities came into the open at a provincial party conference held in Abakan in September 1952. There it was stated bluntly that the Kranoyarsk party and administration chiefs had the habit of drawing up economic and cultural plans for Khakassia without consulting the local organs about them.[25] In other words, Khakass autonomy exists only on paper.

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VII

THE SOVIET FAR EAST IN PERSPECTIVE

1.

Communism as a materialistic teaching cannot aim at the preservation of national groups and minorities. Their right to an existence as separate political and cultural individualities depends on their contribution to the communist cause. If they fulfil a useful and 'progressive' task, from a communist point of view, they are able to enjoy the very considerable material blessings which communism has in store for backward areas. On the other hand, if they are an obstacle to communism they may be exterminated.

The extermination of ethnic groups can take many forms both in communist and non-communist societies. Open violent genocide has been practised only in a few exceptional cases, for instance, by Imperial Germany which wiped out entire tribes in South-West Africa, by Hitlerite Germany which destroyed the bulk of the Jewish population of Eastern and Central Europe or by Soviet Russia which suppressed such nationalities as the Chechens, Ingushi, Crimean Tartars, Balkars and others. But genocide does not always culminate in one single dramatic event, it may be spread out over many years. A large number of political, economic and cultural measures may be put into effect to bring about the ultimate extermination or at least disintegration of an ethnic group. Let us recapitulate shortly the principal measures leading to national oppression which we have seen at work in various parts of the Soviet Far East and Eastern Siberia:

1. Industrialisation and de-tribalisation which is linked with migration of natives to big urban centres.
2. Destruction of the native economy through state interference such as the fostering of class struggle and the confiscation of cattle.
3. Mass colonization of 'national territories' by Europeans.
4. 'Liquidation' of the native upper class and of the intellectual *élite*.
5. Persecution of religious beliefs peculiar to minority nationalities.
6. Prohibition of cultural and political integration of kindred tribes and nationalities.
7. Imposition of an alien ideology, of a foreign language and culture.

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000 8. Suppression of historical and cultural traditions which are essential to the survival of the national consciousness of a given ethnic group.

It may be argued that none of these eight measures is the exclusive weapon of communist nationalities policy. Their application may be traced not only in Russia but also in areas which are notorious as 'dark spots' of Western colonial policy. Ruthless industrialization and de-tribalization, for instance, may be seen in operation in a city like Johannesburg or in the mining areas of the Belgian Congo. The liquidation of the intellectual *élite* does seem to be the result of the policy pursued in Madagascar. Mass colonization by Europeans has jeopardised the interests of the native peoples of Kenya and the Rhodesias. Attempts at establishing unity have been frustrated in the case of the Ewe people in West Africa and in the case of the Somali in East Africa. But in comparing conditions in Siberia to those in the more problematic parts of the African continent one important reservation must be made. The numerical strength of the African people is such that ultimately they will triumph over the limitations which result from European colonial rule. Ultimately Africa will belong to the Africans. In Siberia things are different. There the peoples can have no hope of an end of European rule. They are too small in numbers to withstand the communist offensive which combines the implementation of economic development schemes with social experiments and attacks on tribal institutions and customs.

Another important factor which makes national oppression in the Soviet Union even more intolerable than in most other colonial Empires is the lack of freedom of expression in Russia's metropolitan territories. Protests about injustices committed in colonial territories often reach the public in Britain and France, they are discussed in the press and in Parliament. The interest which British public opinion takes in colonial affairs in particular, is a very important factor in the discovery and remedy of local inequities, and the local political leaders in the colonies know that there are always British members of parliament, British newspapers and British missionary societies ready to take up a 'cause'. In Soviet Russia it is unthinkable that a Moscow newspaper should defend the cause of a local nationality against the Central Government or against the Central Committee of the Communist Party. It is equally unthinkable that a Yakut or Buryat delegation should give a Press conference in Moscow to a sympathetic Russian audience challenging certain measures or plans pursued by the Kremlin in Eastern Siberia or that a member of the Soviet Parliament should expose the execution of nationalist leaders, say, in the Tuvinian Autonomous Province.

The reason for the absence of such Russian criticism of Soviet colonial policy is not that all Russians are in agreement with the policy

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pursued in the Soviet East but that they themselves are an oppressed people. To remember this fact is of cardinal importance for the appraisal of Soviet reality although it might easily be overlooked in view of the forcible imposition of Russian culture and the encouragement of Russian colonization by the communist régime. Naturally, the Russians are not oppressed in the same way as the other peoples of the Soviet Union. In view of their large numbers and their geographical distribution all over the U.S.S.R. they are bound to occupy a place in communist strategy that is different from that of the minority nationalities. The régime uses the Russian language and it uses a diluted and falsified form of Russian culture for the strengthening of communist centralism. Russian culture as a free Russian intelligentsia would understand this term and the 'Russian culture' propagated by the Soviet régime are by no means identical. In the first place, a number of Russian philosophers, particularly Russian religious thinkers, have remained on the Soviet 'index' and without them Russian culture will remain incomplete. As long as Russian culture is without its Christian elements it will be as crippled as British civilization would be without the Bible. In addition, the Soviet régime has given Russian culture and Russian history an aggressive and one-sided interpretation which the best elements of the Russian intelligentsia would never accept if they had a real opportunity to express their views.

2.

The Soviet nationalities policy as pursued in the Russian Far East helps to solve the question of whether the Soviet Union is predominantly a European or an Asian power. This question is of more than academic interest since on its answer depends the future shape of relations between Russia and the nations of Asia. The methods by which Russian culture and language are encouraged in Soviet North-East Asia, Russian nationalist leanings are fostered among colonists, Buryats and Yakuts are treated and Mongolia is ruled through 'remote control' show that the Soviet Union is behaving as a European colonial power in the worst old-fashioned sense of that term.

When determining whether Russia is 'Europe' or 'Asia' other factors too must be taken into account. If we look at the problem geographically and historically, then it must be recognized that Russia is a combination of Europe and Asia. But the vastness of the Soviet Far East and Soviet Asia in general can only too easily lead to an over-rating of the Asian aspect of the U.S.S.R. while in fact the political and ideological centre of gravity of the Soviet State is clearly in Europe and more so now, since the Second World War, than ever before. The European character

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000 of Soviet Russia has been strengthened by the territorial annexations which she carried out in the years 1939–45. The Western territories which the Kremlin added to the Soviet Empire have as many inhabitants as all five Central Asian Soviet Republics. A small slice of the new 'Soviet Far West', the Baltic States alone have a larger population than the entire gigantic Soviet Far East which covers one-seventh of the surface of the Soviet Union. Nor are they superior in numbers only, they are also more advanced culturally. The Russian territories east of Lake Baikal have not a single cultural centre which could rival a Vilnius, a Riga or a Tartu (Dorpat).

The emergence of half a dozen satellite countries in Central and Eastern Europe has further consolidated the specific weight of Europe within the Soviet Empire. The satellite countries, it is true, have caused considerable worries and difficulties to the Kremlin but from a long-term Russian communist point of view the advantages outweigh the disadvantages. Seen from the angle of the internal security of the Soviet State the satellites are considerable assets. The existence of 'loyal' governments in Poland and Eastern Germany means safety for Russian colonization in the Baltic States and the Kaliningrad (Koenigsberg) Province. The communist régimes of Poland, Czechoslovakia, Hungary and Rumania isolate Ukrainian nationalism and reduce the danger which it constitutes to Soviet centralism. A Bulgarian 'People's Republic' at the gates of Istanbul is an additional safeguard against that city becoming a rallying point of pan-Turkism, an idea which still has its attractions for the Turkic peoples of the U.S.S.R.

The communist sphere, it is true, has expanded further in East Asia than in Eastern Europe but there it has a quite different meaning. The establishment of the so-called European 'People's Republics' or 'People's Democracies' is an obvious gain both from an international communist and from a Russian viewpoint. These countries are not only Russia's political satellites, they are also part of the Russian cultural sphere. For instance, the Russian language is being persistently and to some extent even forcibly imposed on them as the 'language of socialism', With regard to the Chinese People's Republic things are different. Its existence is certainly a gain for world communism, but whether it is in the long run a gain for Russia is doubtful.

It is difficult to imagine a situation in which Russia could 'swallow up' a communist China culturally and politically. On the other hand, the victory of Chinese communism may have, from the Soviet-Russian standpoint, adverse effects on the destinies of the European population of the Soviet Far East, on the Mongols of the M.P.R. and even on the Buryats and other nationalities of Siberia. Could not a new vigorous China try to draw these nationalities into its orbit in the same way as a strong Japan did in the past?

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If communist China decides to take up the problem of Asiatic immigration into the Soviet Far East and the problem of the unification of all Mongol territories this will have not only considerable political but also great ideological significance. In taking up these issues China will force the Soviet Union to decide whether it wants to adopt towards the Far East a Russian nationalist or an internationalist communist approach. 000

But whichever way Soviet Russia decides will ultimately make little difference. If she continues to uphold the nationalist Russian 'mystique' and the policy of the White Soviet Far East with all that this implies she must necessarily encounter the open hostility of China and possibly of a new strong Japan, even if we assume for the sake of argument that it might be a 'Japanese People's Republic'. The position of the Russian Far East will then become untenable. If, on the other hand, the Soviet régime decides to drop its European bias, then it must throw its frontiers wide open to Eastern immigrants, both Chinese farmers and Japanese fishermen. In such a case there would no longer be any sense in an artificially fostered European immigration into the Pacific coastal areas. Nor would there be any sense in Russia keeping such outposts as Sakhalin and the Kurile Islands. In other words, if Soviet Russia remains nationalistically Russian, then she is bound to be involved in a conflict with the Far Eastern nations as a result of which she might lose her Far Eastern possessions. If she adopts an internationalist communist attitude she must honour this change of heart by a voluntary retreat. Naturally, in a world situation where Russia and China are bound together by the common fear and hatred of the West, questions like those of Chinese immigration into the Soviet Far East and the future of Mongolia are of secondary importance but these problems do exist and will require a solution one day.

The peoples of the Soviet Far East would gain little if Russian communist rule were replaced by Chinese communist rule. There could only be a change for the better if a régime were established which would guarantee the freedom of the person and the freedom of conscience. One of the most important consequences of the restoration of freedom would be the liquidation of the forced labour system which is a more important institution in the Russian Far East than in most other parts of the U.S.S.R. The disbandment of the forced labour camps would lead at least temporarily to a weakening of Russian colonization and to the virtual depopulation of certain less accessible parts of the Russian Far East. It would also result in the abandonment of various development schemes which are economically wasteful and can be kept going only with the work of convicts.

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3.

000 As soon as the Russian people are freed from the fetters of communist materialism and police rule the Russian attitude towards the small peoples of Siberia and the Far East will have a chance to be inspired by a new and genuinely democratic ethical nationalities policy. The aim of such a policy can only be the preservation of the life of ethnic groups, even of the smallest, instead of their submission to the requirements of a political apparatus and a rigid economic plan. 'Preservation of life' does not mean non-interference, does not mean leaving undeveloped areas to themselves but means guaranteeing them material well-being without destroying their souls. To combine the two is a problem which confronts every society including the Russia of the future.*

For the non-Russian nationalities of the present Soviet Far East and Siberia the restoration of freedom in Russia will be the beginning of a new spiritual revolution. Various philosophies and creeds will enter into competition to heal the moral wounds and confusion which the brusque transition from Shamanism to Communism must have inflicted. Christian missions will be one of the factors in this new situation arising in Siberia. The missionaries in the lands of the Far Eastern and Far Northern tribes will require a profound psychological understanding of the local nationalities, an infinite amount of tact, and a thorough knowledge of history, languages and tribal customs. This tremendous task can probably not be shouldered by the Russian Church alone, it may have to be shared by the entire Christian world.

However, it is not likely that Christianity will have a spiritual monopoly in the Russia of the future. There will be other alternatives to communist materialism in various parts of the Russian Empire – Islam, Buddhism and other beliefs, as well as various brands of nationalism without pronounced religious attachments. All these forces are at present kept in check by the communist police state but on the purely spiritual plane they have not been vanquished yet. Even after many years

* Nobody has defended the 'preservation of life' of the small ethnic groups in more brilliant terms than the Indian philosopher Radhakrishnan when he wrote:
'The trail of man is dotted with the graves of countless communities which reached an untimely end. But is there any justification for this violation of human life? Have we any idea of what the world loses when one racial culture is extinguished? It is true that the Red Indians have not made, to all appearance, any contribution to the world progress, but have we any clear understanding of their undeveloped possibilities which, in God's time, might have come to fruition? Do we know so much of ourselves and the world and God's purpose as to believe that our civilization, our institutions and our customs are so immeasurably superior to those of others, not only what others actually possess but what exists in them potentially? We cannot measure beforehand the possibilities of a race. Civilizations are not made in a day and had the fates been kindlier and we less arrogant in our ignorance the world, I dare say, would have been richer for the contributions of the Red Indians.' (S. Radhakrishnan, *The Hindu View of Life*, London 1927, pp. 94–5).

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of purges and persecution religious and nationalist trends are alive 000
in the Soviet Empire. This survival of religion and of nationalism is not only characteristic of conditions in the U.S.S.R. itself, but also gives a clue to the future development of the Asiatic territories outside the Soviet Union. If complete ideological uniformity could not be imposed on even such small peoples as Buryat-Mongols and Yakuts how can we expect communism to succeed in the larger Asian countries with their great and ancient civilizations? To become a victorious ideology in addition to a victorious political system communism would have to change its character and increase its spiritual striking power. It would have to rise to the same heights as the religious teachings of the Asian continent. Up to a certain point the Kremlin itself has been aware of this problem. It has deliberately encouraged certain aspects of communism which would lend themselves to expansion into component parts of a new pseudo-religious mysticism – for instance the cult of Stalin and the cult of Moscow which comes very near the myth that surrounds the 'sacred city' of any religion. Both these cults are propagated on a worldwide scale but nowhere did they find such exaggerated expression as in the Eastern Republics of the Soviet Union. However persistently propagated, they could not make communism a serious competitor of the recognized creeds and philosophic teachings of the East, least of all the Stalin cult which may turn out to be short-lived. It has already given way to the colourless cult of the Party which is far less attractive to the Eastern mind. Other attempts have been made too, to put communism on a higher level by restating as communist principles what are Christian principles or general moral principles common to all religious creeds. This is the purpose of the teaching on so-called 'communist morality' in Soviet schools as well as of the new statute which the Communist Party of the Soviet Union adopted in October 1952 and which put stronger emphasis on honesty and truthfulness to secure a smoother running of the Party apparatus. But in the works of Lenin and Stalin which contain the principal message of Soviet communism we find little more than precepts for political strategy and tactics and in the best case explanations of certain sociological phenomena. Neither Lenin nor Stalin nor any of their disciples have attempted to create an all-embracing code of moral behaviour and to give a definition of permanent values that could rival any of the sacred books which originated in Asia, the Old and New Testaments, the Hindu Scriptures, the Avesta or the Koran. Consequently, through communism Asia would lose more in the spiritual field than it might gain in the material. Herein lies the chief weakness of the whole political and ideological communist system and of its nationalities policy.

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Some of the types and personalities mentioned in the text

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1 The Yakut historian Georgy Basharin whose views on Yakut literature *Pravda* denounced as 'anti-Marxist'.
2 The Khakassian student N. S. Tenashev, of the teachers' training college of Abakan.
3 A Buryat – Mongol peasant, Bula-Tsyren Tugutov, who was awarded the title 'Hero of Socialist Toil'.
4 An actor of the former Chinese theatre of Vladivostok.
5 Valentina Khetagurova-Zarubina, a Russian, wife of a Red Army officer serving in the Far East. She appealed to Russia's girls to live and work in the Soviet Far Eastern territories.
6 Kim Penkhva, chairman of the Korean collective farm 'Polar Star' of the Tashkent Province (Uzbekistan), previously in the Soviet Far East.
7 A Nanai woman, Samar, accountant of a collective farm.
8 The Shorian miner Dmitry Pyzhlakov (Tashtagol iron-ore mines, Kemerovo Province).
9 Otke, a Chukcha, Chairman of the Executive Committee of the Chukcha National Area.
10 Sad Belbekov, an Oirot shepherd of the 'Paris Commune' collective farm (Autonomous Province of the High Altai).
11 Marshal Choibalsan (1895–1952), Premier and Commander-in-Chief of the Mongol People's Republic.
12 Dzhansi Kimonko (1905–1949), an Udege writer, hunter and village council chairman.
13 Mavra Mironova, a Tunguz student of the Leningrad Pedagogical Institute reading the *History of the Soviet Communist Party*.

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/7/ FORWARD

121

Having been occupied for years with drawing up a comprehensive scientific study of the land of the Soviet Union, I have decided to cut off a piece of this country and to postpone the description of the whole country. For this I have selected the Far East for specific, authoritative reasons. It is of course known that Russia and also the Soviet Union transfer the emphasis in their political activity according to the circumstances at the time. At one time it lies in Europe, i.e. in the extreme west as viewed from the total expanse of Russia, and then again it lies in the opposite section of this immense empire, which the Russians and we too designate as the Far East. The latter is at present the case: the Soviet Russian Far Eastern regions constitute a base and a point of departure. The description of these regions in their basic geographic traits and in their economic bases and problems is the main task assigned to this work.

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The present work rests both on my own knowledge obtained on my trips and on detailed study of all available literature. My personal knowledge is limited, to be sure, to only a part of the Soviet Russian Far East; but nevertheless I have not hesitated to treat all regions. Decisive for me in this connection was the thought that even the best known Russian geographers, to whom we are indebted for a description of the entire Russian area, were acquainted with only part of the land from their own experience, and for the rest they had to rely on other researchers, their descriptions and findings. I may assert the same for the present work. In this connection it must be stated that Soviet scientific research has done work worthy of recognition. It is only regrettable that the numerous and valuable results of this research are not made accessible to foreign science. This applies to important branches of research in geography and especially to economics.

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In the subtitle this work is designated as a survey of the land and the economy, and it also shall not be more nor less than that. The space at my disposal doesn't permit going into great detail on the historical development or on the individual regions in the special section, as perhaps might be /8/ desired. It would have been possible; but it would have required volumes. Accordingly the treatment was consciously limited to broad lines in order to give, in addition to an overall view, a clear picture of the individual parts. In the

121 process much had to be dispensed with, and much investigation going into detail had to be left by the wayside in the interests of the whole. For the same reason the simplest possible presentation has been chosen for treating the subjects, without thereby reducing the scientific character of the work. In everything I have been led by the conviction that the present work would fill a gap existing not only in German literature but also in the general literature.

Since the natural resources of the land are of striking importance as a basis for the economy and its perspectives, treatment of the resources was given additional space, and, in conjunction with the past and clearly recognizable uses of the resources, an attempt was made to point out tendencies in the economic development. Only all the available sources and reports could be used for this because of the lack of official data, and, after careful consideration and critical evaluation, they were employed for judging economic progress and its problems. On this subject it is better to say too little than too much.

000 I owe thanks to many friends for much advice and many suggestions in drawing up the work and also for providing me with material. Very special thanks I owe to Prof. Dr. h.c. H. Lautensach, Stuttgart, Prof. Dr. G. Ipsen, Dortmund, Forest Master Dr. E. Buchholz, Reinbeck bei Hamburg, and Dr. H. Klocke, Wiesbaden. Last but not least I wish to thank Prof. Dr. Arved Schultz, Düsseldorf, my especially deserving teacher in the field of geographical research in the east; I will always remain bound to Prof. Schultz, who this year celebrated his seventieth birthday.

The Osteuropa-Institut, Munich, and its director, Prof. Dr. H. Koch I thank for accepting the work in the series of publications put out by the institute.

Munich, May 1953

Erich Thiel

/9/ A. GENERAL SECTION

/10/ /blank/

/11/ THE NATURAL CONDITIONS

Significance, Location, and Size

Soviet Far East: Bracketed under this name are all the Soviet 131
Russian eastern regions, whose waters empty into the Pacific Ocean, which lie predominantly under the climatic influence of the Pacific, and which morphologically have a certain demarcation from the other parts of the Soviet Union through high mountain ridges. It is the entire Pacific coastal area from Vladivostok in the south to the Artic expanses of the Chukchi Peninsula in the north. Soviet Russian science also comprises in its term "Dal'niy Vostok," /Far East/ the same region circumscribed here, and accordingly follows the major division of Asia drawn up by Carl Ritter and Ferdinand Freiherr von Richthofen. According to this division, the entire peripheral eastern slope of the continent is designated as "East Asia." The hinterland of the coastal border belongs to the Far Eastern region insofar as its waters empty into the Pacific Ocean, and the natural demarcation is clear. However, in this work Lake Baykal is set as the western border, and a few words are necessary justify this. Transbaykal, which lies between Lake Baykal on the west and the Argun, the right source river of the Amur, does not comply fully with the above prerequisites. It has a transition position; for, it belongs only partly to the river area of the Amur and partly to that of the Yenisey and the Lena. It also doesn't fit into the Russian concept of "Dal'niy Vostok," here it should not be brought into the concept of the real Far Eastern regions either. However, the transportation and economic connections of Transbaykal are linked much more with the east than with the west; it is linked specifically with the Far East in the broadest sense. One could try to designate Transbaykal directly as the platform of the position of the Soviet Union in East Asia. Here begins the Amur, which has pointed the way to the east for the Russians and which the Russians have followed with a land route and a railroad. Transbaykal is further the starting point both for traffic lines laid by the Russians through Manchuria to the Pacific and also for old historical routes

131 through Mongolia to China, routes which are no less important at present. For these reasons the inclusion of Transbaykal in the comprehensive overall concept of the "Soviet Far East" seems not only justified but even necessary for better understanding of how things fit together.

/12/ Through the Far Eastern regions the Soviet Union has a continental coast on the Pacific, which is more than 10,000 kilometers long, and through this she has become an important neighbor /Anlieger/. The outcome of World War II has brought the Soviet Union into possession of southern Sakhalin and the Kurils. With this the Japanese protective chain of the Kuril was eliminated, and the Sea of Okhotsk, with an area of 1,530,000 square kilometers, became for all practical purposes an internal sea of the Soviet Union; and it is now even officially regarded as belonging to the national sphere of the USSR. This pressure of Soviet power toward the Pacific Ocean has resulted in broader prospects of naval development for the Soviet Union than in the past, since the naval development had had to be limited to the continental coast. In this connection, Sakhalin Island, pointing [32] toward the Japanese island empire and separated from Hokkaido only by La Perouse Way, scarcely 50 kilometers wide, deserves special attention since, through a dam completed in 1952, it has been linked to the continent and for all practical purposes has become a part of the continent. With the southwest side of Sakhalin and the Maritime Krai, the Soviet Union now lies also on the Sea of Japan. Through her large section on the coast and through her possession of the islands extending in front of the coast, the Soviet Union has the prerequisites, not everywhere favorable but still sufficient, for developing into a Pacific sea power. Even though the Russians, being a continental people, have in the past always given preference to land routes, there are still numerous indications that the sea also is not foreign to them. If the Soviet Union still today does not take the corresponding position, that does not mean that it must always remain so. Pretensions to such a position have very probably been proclaimed in the intensive building up of the various harbors for military and trade purposes.

The greatest importance of the Far Eastern region for the Soviet Union lies in the fact that it guarantees access to the open sea to this strong continental power. Although the usefulness of the individual ports on the ocean within the Soviet Union's national territory is impaired and their importance reduced by unfavorable natural conditions, these ports exist, and their shortcomings have become a

principal motive for building them up individually, for broadening the general access to the sea, and for forming better and easier access through new routes, whether or not these routes lie through the Soviet Union's own territory. Probably in no country in the world has the natural striving toward the sea come out so clearly in history as in Russia, where the strivings have been toward the east to the shores of the Pacific Ocean. This was first reached in 1649 on the Sea of Okhotsk. Okhotsk formed the first point of departure for undertakings along the coast and on the sea. However, the long, difficult route from the hinterland and the harsh climate caused the Russians to go further to the south in their search. New hopes were awakened in them by the discovery of the great Amur River at whose mouth they /13/ expected to find a favorable exit to the sea. But soon they learned that here, too, the goal had not been attained. Their view shifted searchingly further along the coast to the south, to regions more favorable climatically. They discovered a suitable natural bay, which, in their exaggerated hopes, they designated as the eastern "Golden Horn." Vladivostok came into existence. But here, too, ice blocks the entrance for three months, and the entrance can be kept free only laboriously with the help of strong ice breakers. In the groping search for a favorable harbor the Russians later came to the Liaotung Peninsula where in Dalny' /Dairen/, the "Distant," another good natural harbor was found and made secure by the neighboring naval harbor, Port Arthur. The Russians were little disturbed that the two last-named harbors lay in foreign territory. An agreement with China was soon reached, and after a short time railroad tracks led from Transbaykal right through the middle of Manchuria to Vladivostok and to Dalny', which the Japanese later renamed Dairen. But even here development in the striving for a connection with the outer world does not appear to have been concluded. Already a railroad line stretches from Ulan-Ude in Outer Mongolia to Ulan Bator. Only a stretch of around 800 kilometers, which even now can be traveled by trucks the entire year, is still to be built, and with this the railroad track in Kalgan will be connected with the railroad line which leads via Peking to the harbor of Tientsin. In this fashion a new, additional exit to the sea would be attained. The prerequisite for this development, of course, is that the neighboring states, in this case Outer Mongolia and China, don't put up any resistance to these strivings and find themselves in political-economic harmony with the great continental power in the north.

131 The pivot of this circle in its movement from north to south, from the mouth of the Amur to Tientsin, lies in Transbaykal, from which radiate the main traffic lines in these directions. The radius of this circle has currently been shortened by the airline from 2, 250 kilometers to around 1, 600 kilometers.

If Transbaykal thus represents the point of departure for the power position of the Soviet Union, this region's large share in the total area of the Far East constitutes a foundation; for through this region the Soviet Union has also become an East Asian land power, which is undoubtedly very conscious of its position as such. The fact that Manchuria is surrounded /by Russia/ on the northwest, north, and east and the fact that the railroad lines to Vladivostok and Dalny' /Dairen/ run through Manchuria brought this Chinese region under the economic influence of the Russians even in Czarist times. When as a result of the outcome of World War II the Russians won back the positions in Manchuria which they lost from 1903 to 1940, the Russians were again in possession of or had the use of the main railroad lines in Manchuria and the harbors in /14/ southern Manchuria. This means for the Soviet Union again an extension of her economic sphere of influence, which at least equals that of the Czarist empire at the time of its greatest power, and even far exceeds this if consideration is taken of the political events and proceedings of the last few years in East Asia.

185 311 In this the strength of the Soviet Russian position in East Asia depends essentially on the development of her own Far Eastern regions. The present state of colonization and the economy both in Transbaykal and in the real Far Eastern regions shows that these are only at the beginning of their development. Up to now only a small percentage of the land suitable for agriculture has been brought under cultivation, and the exploitation of the natural resources has begun only in small areas. However, the progress which has been made in these spheres even during the Soviet regime reveals that this regime is determined to continue to give the necessary stress and upsurge to the favorable beginnings. The preferred, planned colonization shows this; and the tendency apparent in recent years to lead stronger forces into the industrial sector also indicates that the Soviet Union has the intention of creating in these regions a balanced economy in which all natural resources are given equal recognition. The planned economy of the Soviet Union, which intends to give as self-sufficient as possible a position to all the large economic areas, is especially

clearly manifest here; indeed, the distance and the remoteness of this region from the economic centers of the total union even force them to pursue this policy. In this, a role is not only played by the basic thought of populating these remote but well-situated regions, but also of making them as self-sufficient and strong economically as possible. The opportunities which are given the Soviet Union here cannot be estimated. They are great; only time is required to exploit them.

In connection with the above statement the unique position which the Far Eastern transportation network occupies within the Soviet Union as a whole, deserves to be brought out. A look at the map shows that the entire, complicated railroad network in the western part of the Soviet Union comes together into a single railroad line as it heads toward the Far East. This crosses the Yenisey at Krasnoyarsk and runs as far as Ulan-Ude in Transbaykal. Only here does it begin to split up and to develop into a transportation network, insofar as one can speak of such a thing in the Far East. On this single railroad line, which does, however, have two tracks, depends the entire connection of Transbaykal and the Far Eastern region with the rest of the Soviet Union. Even the completion of the Baykal-Amur line does not eliminate the bottleneck at Krasnoyarsk, and accordingly /15/, a certain self-sufficiency is the result of the development of the railroad network in the Far East.

Transbaykal and the Far Eastern region represent the extreme border position of the Soviet Union in East Asia. As remote border regions, they are really the Far East for the European part of Russia. One sees the sun rise and set eight times before one, coming from Leningrad in the Siberian Express, reaches Chita, the capital of Transbaykal, and another day and a half passes before one arrives in Vladivostok. More than 8,000 kilometers by air lie between the western and eastern borders of the Soviet Union. Chita is 6,236 kilometers by railroad from Moscow; Vladivostok is 9,333 kilometers from Moscow via Khabarovsk, and still 8,312 kilometers via the north Manchurian line by direct route.

But even within the Soviet Far East, a distance which seems extraordinary to the European has to be covered to travel from one end to the other. There are around 2,500 kilometers between the southwestern tip of Lake Baykal and the mouth of the Amur, and the airline from Pos'yet Bay, southwest of Vladivostok, to Cape Dezhnev on the Bering Strait is almost 5,000 kilometers long. Sakhalin Island

131 from north to south is almost 1,000 kilometers long, and Kamchatka Peninsula stretches around 1,600 kilometers into the sea from the mainland. These few facts may be enough to give some notion of the vast distances and also the size of the land. / The land covers 3,850,000 square kilometers. That is more than fifteen times the size of Great Britain and Northern Ireland or seventeen times the area of France. But this vast area[1] is in European terms practically empty of 161 people; for in one square kilometer taken as the general mean, there 311 are only 1.6 persons--even if estimated population of 6.3 million in 1950 is taken as a basis. That is extraordinarily sparsely settled. However, in order not to give any false notions, it must at the same time be noted that the actual distribution of people is entirely different. In the southern parts there are regions which are much more thickly settled, while in the vast areas away from the transportation lines, especially throughout the north, in areas of many square kilometers only one person is to be found.

The southern regions--Transbaykal, Amur Oblast, Maritime Krai, the greater part of Kamchatka, and also Sakhalin--are completely suitable for accepting people, even though the harsh climate brings certain hardships. But the Russians are more accustomed to bearing such conditions and better suited for overcoming them than any other European people. Thus Transbaykal and the real Far Eastern regions of the Soviet Union offer settlement opportunities with good prospects for the excess population in other /16/ sections. The population has continuously and considerably increased through immigration:

1911	1,723,754
1926	2,304,000
1939	4,039,000
1950	6,300,000

631 The administrative division corresponds approximately with 161 the natural provinces named in the concept "Soviet Far East" although the borders do not coincide exactly. However, in order to be able to use figures and statistics, it is necessary for practical reasons to make the administrative regions equivalent to the provinces. Unfortunately exact data for this purpose are available only for the time of the last census on January 17, 1929. These data give the following figures for the Soviet Far East: /Table on Following page/

[1] [i.e. The Soviet Far East — Analyst]

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Administrative Unit	Size	Population
1. Buryat Mongol Autonomous Socialist Soviet Republic	331,400	542,200
2. Chita Oblast	720,000	1,159,500
Transbaykal	1,051,400	1,701,700
3. Khabarovsk Krai	2,572,000	1,430,900
4. Maritime Krai	206,600	907,200
Far Eastern Region	2,778,600	2,338,100
Total for the "Soviet Far East"	3,830,000	4,039,800

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Under the above basic division, the following comparisons can be made. Transbaykal comprises approximately one-twentieth of the total area of the Soviet Union (1939: 21,175,208 square kilometers), but it has only a hundredth of the population. In the Far Eastern region the contrasts are still greater; for in area it has an eighth of the total, but it has only an eightieth of the population in the entire country. Therefore, even in comparison with the Soviet Union there is an extraordinary disproportion between area and population, which indicates that here are special relationships with both geographical and historical bases. These will be discussed in detail later.

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The recent past has brought a change in the administrative division. Two new administrative regions (oblast) were formed, namely Amur Oblast (1948) and Sakhalin Oblast (1947). To the first was attached a part of the old Chita Oblast and a part of Khabarovsk District (Krai). Its size is 360,100 square kilometers. Blagoveshchensk was selected as the capital of the oblast. To Sakhalin /17/ /Map of the Soviet Far East as of 1947:/ /18/ Oblast belongs the entire island (64,750 square kilometers) and the Kurils (15,600 square kilometers); the capital is Yuzhno-Sakhalinsk.

The border separating these from the other parts of the Soviet Union has, however, remained the same. Accordingly, the following administrative units belong to the Soviet Far East at present:

1. Buryat-Mongol ASSR
2. Chita Oblast

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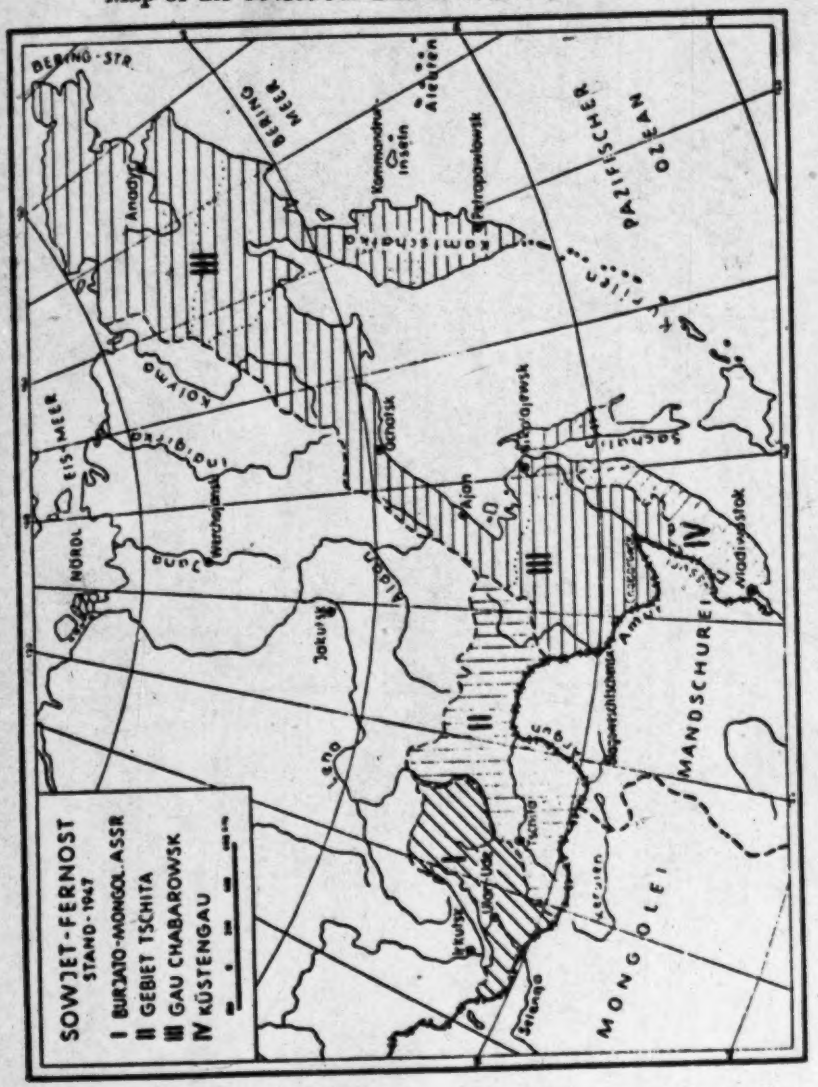
Map of the Soviet Far East as of 1947:



I = Buryat-Mongol ASSR; II = Chita Oblast; III = Khabarovsk Krai; IV = Maritime Krai

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3. Khabarovsk Krai
5. Maritime Krai
6. Sakhalin Oblast

The two sketch maps inserted in the book show the old and the new administrative division. In the following presentation the old administrative units must be used as a rule in statistical information.

The new division of the administrative regions which has been made often during the period of Soviet rule, shows that the Soviet Far East is still not in its final from, neither as to population nor as to the development of its economy nor yet as to its administrative order; everything is in vital flux, everything is coming into being and becoming.

Unveiling and Occupation

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The conquest of Siberia, begun in 1581 by Yermak and his Cossacks, moved forward to the east very quickly, unhampered by the sparse population. It followed the great rivers, whose watery courses served the Cossacks both as a route and as a sign-post into the vast areas never before tresspassed upon by a European. River area after river area was thus transversed by them and secured by bases remaining there. Already by 1632 the city of Yakutsk was founded in the land of the Yakut on the middle Lena, and from then on this city served as a starting point for further pressure forward. In 1638 a Cossack division of Ataman Koplov proceeded along the Aldan and its tributary the Maya. They wanted to go to the "Great Sea," which the Tungus reported to them and which the Tungus called the "lamu," the "sea." However, they went only around 100 kilometers along the Maya and then had to stop for the winter. A smaller group under the leadership of the Cossack Moskvitin advanced farther along the way. They carried their boats from the upper Maya over the watershed of the Dzhugdzhur and reached the Ul'ya, which carried them on. In 1649 these Cossacks reached the coast of the Sea of Okhotsk, being the first Europeans to do so. At the mouth of the Ul'ya, somewhat south of present day Okhotsk, Mosvitin established a base and explored the coast to the north and south and /19/ /Map of the Soviet Far East as of 1953:/ /20/ went as far as the mouth of the Uda. However, he did not find the Shantar Islands. They were discovered only in 1710. Another Cossack by the name of Shelkovnikov founded

Map of the Soviet Far East as of 1953:

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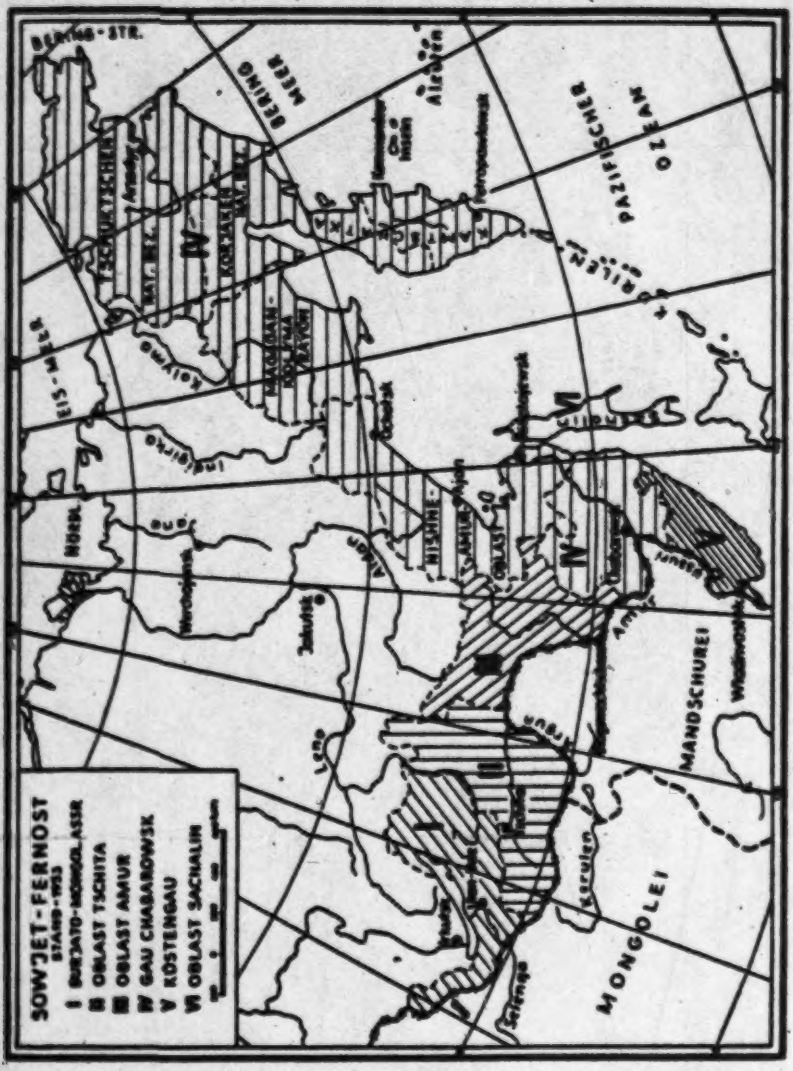

I - Buryat-Mongol ASSR; II - Chita Oblast; III - Amur Oblast; IV - Khabarovsk Krai; V - Maritime Krai; VI - Sakhalin Oblast

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the sea base Okhotsk at the mouth of the small river Okhota still in the same year of 1649; Okhotsk has for a long time served as the Russians' main harbor.

From Yakutsk northeastern Siberia was also opened up. In 1633 Rebrov and Perfiliev went down the Lena into the unknown distance and reached the Artic Ocean, which they followed along the coast to the east and discovered the mouth of the Yana. Ivan Yerastov, proceeding from the Yana, reached the Indigirka and the Alazeya in 1641. In the same year Stadukhin went farther to the east and came to the Kolyma, where he founded the base Nizhne-Kolymsk in 1644. He didn't go farther east, since ice blocked his way, so he turned back to Yakutsk in 1645. Stadukhin brought the first reliable reports on the Chukchee. In 1646 Ignatiev reached the Chaun Bay. In Stadukhin's division which pressed forward to the mouth of the Kolyma was Semion Dezhnev, whose name has endured in the history of the discovery of northeastern Siberia. Despite previous failures, this bold Cossack sea traveler again proceeded east from the mouth of the Kolyma with seven small boats. His goal was the mouth of a large river (the Anadyr'), which by hearsay was supposed to empty into the sea further to the east. In 1648 he sailed around the cape named after him and thus determined the northeastern end of the Asiatic continent. Thus Dezhnev was the first European to travel in the Bering Strait. Because of the thick fog he could not see the American coast on the other side of the strait, but he did report on two islands (Diomede Islands). Dezhnev must have gone very far to the south, for when he was stranded with his boats as a consequence of a storm, he had, according to his own report, to double back to the north, going by foot for ten weeks, in order to reach the mouth of the Anadyr'. The conjecture that Dezhnev eventually reached Kamchatka, cannot be discarded. It can be taken as certain the Popov, one of his companions, traveled around Kamchatka and in Penzhina Bay met other Russian sea travelers coming from Okhotsk. Thus the circle of the Russian opening-up of northeastern Siberia was closed along the coast, where the Dezhnev route and the Moskvitin direction met. Popov later traveled the Tigil' River on Kamchatka, where he died. His fellow travelers were killed in a disagreement with the natives. There are various documents from Dezhnev and his companions, and these documents report not only on the regions discovered but also on the inhabitants, the Chukchee, the Koryak, and the Eskimo.

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In 1647 Stadukin started out from Yakutsk again toward the Kolyma area, where he remained until 1649, and then he took up again /21/ his old plan of finding the Anadyr'. He knew nothing of the success of Dezhnev's trip. Restrained by his first failure in 1643-44, he selected the land route and thus followed the direction which a scarcely known Cossack by the name of Motora had already taken before him. Stadukhin followed the Anyuy, probably the Lesser Anyuy, and with great difficulty crossed the watershed of the present Anadyr' Mountain, and also reached the river of the same name, which he followed to its mouth, where he met Dezhnev. But later he returned to the interior of the Anadyr' region and there founded a base, whose location is unknown. Stadukhin later appeared in Penzhina Bay. It cannot be determined whether he got there by the land or the sea route. His last known deed was the founding of a settlement on Tauyskaya Bay. To Stadukhin we owe the first reports on the interior of northeastern Siberia.

Although Kamchatka had already been touched by various Russians, Cossack leader Atlasov was the first to succeed in taking possession of the peninsula for Russia. In 1697 he was sent out as the commander to the Anadyr', and still in the same year he pressed in to the interior of Kamchatka and established a base in the center of the peninsula on the Kamchatka River. Atlasov was named the first Russian administrator of Kamchatka. Fights with the natives and also with his own Cossacks didn't make his work easy. In 1707 the Cossacks got angry and imprisoned Atlasov, whom they accused of misuse of his office and cruelty. In 1711 he is supposed to have been killed. From 1711 to 1718 there followed the discovery of the Kurils, in which Kosyrevskii in particular performed great service.

It is remarkable that Japan is never mentioned in the reports of the expedition leaders. Atlasov was the first to whom such a report goes back. Once he spoke of a Japanese who was driven onto the land by a shipwreck on the western coast of Kamchatka and who lived with the natives. In 1701 he was brought to Moscow by the Russians, and there he caused great commotion by his tales, and even Peter the Great occupied himself very much with getting a school built for him in which he was to teach Japanese language to a select group of Russian subjects. This school existed until 1739. Its pupils took part in the Bering expedition as interpreters. In another report Atlasov makes a remark that Japanese are supposed to have lived on the southern tip of Kamchatka. For the rest his reports are filled with

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descriptions of the land. Kamchatka's wealth in fish and valuable fur-bearing animals is given especial attention; among the latter the sable and the Kamchatka beaver, as the great sea otter was falsely named, are prominent. For this reason the Russians at that time also called the Bering Sea the Beaver Sea. Kosyrevskii, the /22/ discoverer of the Kurils, later met Japanese several times. His reports on Japan increased Peter the Great's interest in the Far East; he gave the order to conduct further exploratory trips and to secure the unoccupied land for Russia. Already by 1718 all the Kuril Islands were included in maps.

Among Dezhnev's successors the rumor appeared that farther to the east land was supposed to lie on the other side of the ocean. These rumors relied on the reports of the natives of the Chukchi Peninsula, who asserted that in winter that continent, which they designated as the "Great Land," could be reached over the ice. Atlasov called special attention to these reports, and he had the still unknown land drawn on his maps; but it was only Bering and Chirikov who reached Alaska for the first time in 1741 and took possession of it for Russia. A further advance of the Russians followed with the Aleutian Islands and the southern coast of Alaska serving as the guiding lines. In 1812 there were Russian settlers 40 miles outside of San Francisco and a base close to San Francisco. This was the most distant point which the Russians reached in their rapid and dashing settlement of the east. A backward movement followed. In 1867 Alaska, which at that time was considered valueless, was sold to the the United States for 7.2 million dollars, and with this Russia limited herself to the western side of the Pacific.

The movement of the Russians into the still unknown regions of the Far East occurred partly as a result of official orders; in this case the administrative offices in the hinterland carried out the formation and equipping of mostly very small expeditions and also chose the leaders; but in part this movement was the result of private undertakings. The voivode followed then in the tracks of both. The main goal of all expeditions was to take possession of the land through the establishment of bases and to insure the collection of the "yassak," a kind of head tax, which had to be paid by the natives in valuable furs. Also participating in the official expeditions were the private entrepreneurs, the "promyshlenniki," mostly fur traders and hunters, who distinguished themselves in the gouging of the natives no less than the official administrators. Thus it came about that the natives,

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who were shamelessly exploited, often turned against those moving in. Great battles took place with the Chukchee, Koryak, and Kamchadal, and these were decided in the Russians' favor because of their superior weapons. But again and again there were attacks on and murders of collectors of the "yassak." Only at the end of the eighteenth century did peace and order return to the land.

The occupation of Transbaykal and the Amur region did not keep pace with the advance of the Russians in the north; for in Transbaykal and the Amur region the Russians encountered a population which was by comparison more thickly settled and which already had a state /23/ organization. When the Cossacks in 1648 advanced from Irkutsk into Transbaykal, they were first attacked by the nomadic people, the Buryat, a Mongol tribe. Only step by step did they succeed in advancing to the Argun and getting a foothold there. Reconnaissance into and occupation of the Amur area was done, therefore, from the north, from Yakutsk, since the direct route from Lake Baykal such difficulties were encountered. On the report of Tungus that vast rich lands lay south of the Aldan region, Cossack Poyarkov in 1643 undertook the first expedition there with 132 men. From Yakutsk he proceeded along the Aldan and then followed the Aldan's tributary, the Uchur, and then the Gonarn. But here winter surprised him on the broad watershed of the newly discovered Stanovoy. The lack of game on the uninhabited ridge of the mountain brought the expedition into very great danger. Death from hunger threatened everyone, and they had to eat tree bark and moss in order to preserve their strength. Despite the great danger Poyarkov succeeded in crossing the watershed on skis, and with the breaking up of the ice he reached the Bryanka, a tributary of the Zeya. Using rafts and boats he himself had made, he went down this river to the Amur, at whose mouth he spent the winter with the primitive fishing people, the Gilyak. In the summer of 1645, using small boats without keels, he proceeded from here along the coast to the north. After a three-month trip with unbelievable deprivations, he landed at the mouth of the Ul'ya, where he encountered Russian settlers and thus was saved. From here he followed the Maya to the Aldan and returned to Yakutsk in 1646. On this hard three-year trip he lost 80 men through illness, enervation, and conflicts with natives. In his description of the Amur country Poyarkov reported on the peoples settled here and mentioned among others the Daur and Gilyak. Of the latter he said that they ate only fish. The Daur, on the other hand, pursued agriculture; barley,

buckwheat, millet, peas, and hemp were cultivated. Likewise animal breeding was known to them, they kept horses, pigs, cattle, and chicken. In the woods he found wild walnut trees. All these tribes paid tribute to the emperor of China, who was called Bogdo-Khan. The natives reported that his warriors fought with fire and bows and arrows. 175 484

Three years after the return of Poyarkov, Khabarov set out again from Yakutsk with 70 men on a new exploratory trip toward Amur. He selected a route running farther to the west than Poyarkov had, and he followed the Olekma and the Tungir in order to reach the Amur via the Urka. There he found a large, hostile population ahead of him and, since he felt himself to be too /24/ weak, he turned back to Yakutsk in 1650. However, the next year he set out again with stronger forces, and by the same route reached the Amur on which he founded the city Albasin /today: Khabarovsk?/ at the mouth of a small river. Agriculture was started, and the place itself was provided with buildings for defense. Numerous Russian peasants followed and settled here. However, the still unknown distances and the waiting booty enticed the restless Cossacks. In a constant fight with the Tungus tribe, the Daur, whose cities he pillaged and destroyed, Khabarov undertook numerous trips on the Amur and also followed the Sungari and the Ussuri. He had to spend the winter of 1651-52 at the mouth of Ussuri on the Amur and there he had to defend himself from vigorous attacks by the Manchu and other peoples. The city of Khabarovsk, later founded at the same spot, bears his name.

The first Russians who advanced into the country were free, very bellicose Cossacks; but with them came Russian settlers and traders at the same time. At favorable trade points they established settlements and, in addition to hunting, agriculture, and fishing, they pursued an active, highly profitable fur trade. Over and above this they demanded the usual "yassak" from the natives. These tributes were collected ruthlessly. Robbing and plundering of the sedentary native population were part of the daily agenda, and accordingly many natives, particularly those pursuing agriculture, left the insecure land and resettled on the right side, the Manchurian side of the Amur. 175 167

By the middle of the seventeenth century there were already a whole series of Russian settlements along the Amur; the capital of these was the above-mentioned Albasin /today: Khabarovsk?/.

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167 All these bases were officially under the Moscow government. Khabarov, who was called to Moscow to give a report, received the title of Boyar. His successor, Stepanov, continued systematically the exploration and taking possession of the land so that by 1681, Russia, for all practical purposes, ruled not only the Amur but also the area around the lower course of the Sungari and Ussuri. The first voivode in Albasin /today: Khabarovsk?/ was Tolbusin. But the behavior of the Russians toward the natives was anything but wooing. Violence and extortions practiced on the natives aroused animosity and led to uprisings, and in the end to battles with the Chinese. As a consequence in the eighties of the seventeenth century all settlements in the entire region were destroyed and most of the Russians were killed. Even Albasin /today: Khabarovsk?/, which had developed into the center of Russian power in the Amur area by continually drawing people in, was captured and destroyed by Manchurian troops in 1684. However, after their withdrawal the Cossacks rebuilt the city and began anew to till their fields. The rapacious border warfare recommenced. Thereupon /25/ a Chinese army with 8,000 men and 40 guns appeared before Albasin /today: Khabarovsk?/ in 1687, while there were only 736 Russians within the city. The Russians, however, succeeded in withstanding all attacks even though at the end only 66 men remained. The others had been killed or had fallen victim to scurvy.

[LHR] In order to bring an end to these bloody and inexorable border fights, which had taken on the character of a mutual war of extermination, Russia and China resolved on a treaty which was laid down in Nerchinsk on September 7, 1689. The area west of the Argun was promised to Russia, and Russia pledged to withdraw all Russian settlers from the eastern side of the Argun to the western side. The river area of the real Amur was to remain in China's hands. A left Amur tributary, the Gorbitsa, was laid down as the western border, while the watershed between the Lena and the Amur was determined as the northern border: this watershed in the main runs along the ridge of Stanovoy. All Russian settlers in the Amur country had to leave; Albasin was razed and given up.

After the Nerchinsk Treaty the colonization of Transbaykal began. For the protection of the border the Transbaykal Cossack army was drawn up and settled in numerous stations on the Argun, where the Cossacks led an unconstrained border life--half peasant, half soldier. They soon got along well with the Buryat, who had set up

their defenses at the time of the first invasion of the Russians. Many Buryat were even taken into the Cossack organization as equals. The Amur country, which remained in China's hands, was not, however, forgotten. With its wealth of furs it soon again enticed many Russians, who advanced along the Amur anew, set up settlements, and with their own hands began to establish themselves economically in the foreign land. The very audacious even ventured as far as the Ussuri country. 175 167

Although the northern border of the Amur country, almost unknown to the Russians and the Chinese equally, had not been laid down exactly and had no border markings, it remained thus for over 160 years. In this period, especially after 1800, numerous Russian scientific expeditions traversed the land. In addition to many well known Russian researchers, such as Maksimovich, Veniukov, Nevelskii, Usoltsev, there also appear many German names of Baltic origin, such as Middendorff, Schrenck, Radde, Schmidt, and Glehn. Outstanding descriptions of the land come especially from Middendorff. At the same time the sea-faring powers began to concern themselves with exploring the northeast coast of Asia. In 1778 Cook traveled the Bering Sea, in 1787 La Pérouse explored the Japanese islands and Sakhalin, and in 1795-98 Broughton worked in the same area. It is interesting that /26/ the poet Adalbert von Chamisso (1815-18) participated in the exploration of Kamchatka and the Aleutian Islands. 175 484

In the geographic research in the Amur country, the question of the mouth of the Amur was of predominant interest, for in this Russia hoped to find access to the Pacific and a favorable harbor. Already in 1777 the far-seeing Czarina Catherine II had, on the basis of the report of the unsuitability of the Sea of Okhotsk, given an order that the Amur mouth be explored. La Pérouse, Broughton, and Krusenstern (1803-1806) had reported that the Amur ended in an estuary, which only in the north had a link with the sea, and this was shallow and not navigable for ocean-going vessels; to the south Sakhalin was connected with the land, i.e., it was a peninsula. In 1846 Gavrilov, who had been commissioned to do exploratory work in this sea area, still confirmed these claims. Nevelskii, a Russian naval officer, turned against this conclusion after practical reflection. He could and would not believe that the powerful masses of water from the immense river, the Amur, should run into an estuary which was almost closed off. It was a dramatic battle which he had to

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484 conduct against the explorers recognized by the authorities, and he found support from the new Russian governor for East Siberia, Muraviev, who later was made a count and received the honorary name of Amurskii. Muraviev got him command of a small ship, with which Nevelskii headed for the Far East from Kronstadt and in 1849 began his explorations, even before he had received permission to do so. He determined that the connection to the north between the sea and the Amur Gulf could be traversed at all times by ocean-going vessels with a depth of up to 4 meters, and that Sakhalin was an island, and that accordingly during the warm seasons ocean-going vessels with a depth of up to 5.50 meters could get unhampered to the mouth of the Amur from the Sea of Japan through Tatarskiy Proliv /sound/. This news caused a sensation in Petersburg and awakened anew the greatest interest in the Far East both among the state leaders and among the public. In the meantime explorers such as Middendorff, among others, and later also Nevelskii himself reported that the area east of the Lesser Khingan and of the Ussuri had, for all practical purposes, never been brought under Chinese administration and that it was, therefore, in fact free. Thereupon Muraviev took possession of this area and also the Amur country. All of these events are reported in detail, but from the Chinese point of view, by Aitchen K. Wu in his work appearing in 1950, "China and the Soviet Union" (231).

231. Aitchen, K. Wu. China and the Soviet Union (London, 1950).

[418] In 1858 Russia and China signed the Treaty of Aigun, in which the Amur country was declared to be a Russian possession, while the Ussuri country was to be administered jointly by the two countries. But in 1860 in a treaty with Peking Russia also received the Ussuri country and was promised the Island of Sakhalin. With this, all regions which today belong to /27/ the Soviet Union came under Russian administration. In 1860 Vladivostok was founded, in whose name the imperative of Russia's Far Eastern policy was expressed: "Rule the East!"

General Survey

133 Transbaykal, like the other border areas in the Far East, belongs to the east Siberian mountain country. In contrast to the other

parts, Transbaykal has a generally regular shape. Numerous mountain 133
ridges traverse it in strikingly parallel strips from southwest to northeast. Extended mountain ridges and almost equally long valley depressions constitute the distinguishing features here, while the contrast between mountains extending irregularly and lowlands lying in between is characteristic of the Amur and Ussuri areas and also of the extreme northeast.

Transbaykal, lying between heavily forested, damp Siberia 133
and the dry steppe belt of upper Asia, forms a transition area in terms 137
of its landscape. The Mongolian steppes, which in strips are semi-wastelands, cross the border from the south and in long tongues stretch into the broad valley plains between the mountain ridges. In this fashion the steppes reach even Lake Baykal and form islands in the middle of the wooded area, for example on the Barguzin River and in the valley of the Upper Angara. On the other side the Siberian taiga presses in on mountain ridges far toward the south to the area around the upper course of the Onon and the Ingoda. Thus the Central Asiatic steppe and the north Asiatic continental forest penetrate into Transbaykal. There comes into being a magnificent forest steppe landscape. In the south the steppe predominates, but the farther north one goes the more the forest descends the slopes from the rounded-off mountain ridges until finally the forest fills the ever narrowing valleys. The steppe valleys gradually become grassy meadows, which finally turn into swampy valley meadows and even into swamp forest in the north.

The ground relief in Transbaykal, however, is not so varied 133
as would appear from first glance at the map. The valley plains lie generally 600 to 900 meters above sea level, and the ridges of the mountain chains are between 1,000 and 1,400 meters high, so that accordingly there is only a relatively slight difference in height. And even this is blurred by the fact that the slopes are contiguous and rise only very slowly and gradually. As a rule they show no strongly marked ridge but more often have a long, rounded ridge, indeed often in the form of a plateau. In this the predominant forest covering contributes to leveling the unevenness of the relief. Individual mountains, in their considerable absolute heights, extend beyond the tree line. Mostly there are roots, which have withstood the storms and which with their naked round forms project like bare skulls above the general /28/ thicket of trees. The appearance has brought to them the appropriate Russian name of "gol'tsy" (singular

133 "golets"), which means the same as "baldy" or "bald-head." These golets, which appear in Transbaykal only in individual instances, are extremely typical for all mountain areas in the Far Eastern region.

101 311 Culturally, too, Transbaykal has to a remarkable degree a transitional character. The steppe regions, the steppe valleys, and the steppe islands have since time immemorial been the seat of nomadic cattle-breeders, in this case the Buryat, an intelligent and energetic tribe of Mongols, who have kept themselves on the steppes which suit their nature and culture. It is interesting to determine how exactly their expansion even today coincides with their natural landscape. The Buryat penetrate only rarely into the forest areas; more often they leave these to the forest peoples of the Tungus, who even today live there still as hunters and reindeer breeders. The Buryat were the first people to give successful resistance for a time to the invading Cossacks, but as nomads they later had to clear the field for the Russians who were seeping in slowly and pursuing agriculture. Buryat helped themselves, however, by adjusting: they often went over to agriculture themselves, and they appropriated for themselves the advantages of Russian culture. Thus, even though they were penetrated by Russians, they were able to retain their original regions and to attain a cultural level which raised them above all their Mongolian tribal brothers on the other side of the Soviet Russian border. Because of the invasion by the Russians, there came into existence here a cultivated landscape which was inserted between the completely forested areas in the north and the pure steppes in the south; but corresponding to the spacious transition region, this cultivated landscape did not appear in a closed-off zone, but in culture islands. In extensive regions in the south near the border, the Buryat even today still lead their old nomadic, cattle-breeding life.

132 The fact that the bulk of the rainfall occurs in the summer is favorable for agriculture. Chita, lying in the middle of the land, has an annual rainfall of only 319 millimeters. However, 289 millimeters of this falls during the vegetation period so that a relatively sufficient

[243] amount of dampness is available, in conjunction with continental warmth, to make possible a very high yield of summer wheat. This makes Transbaykal an important wheat producer and the principal supplier for all of east Siberia.

133 The Amur country is adjacent to Transbaykal, without a clear border, north of the northern arc of the Amur. In its large morphological traits it is no less varied than Transbaykal, though the differences in

height are greater; for in the Amur country the bottoms of the valleys sink to between 500 and 200 meters, while the mountain ridges still retain heights between 1,000 and 1,500 meters. The number of mountain ridges, which retain their rounded-off, plateau-like character with numerous "gol'tsy" /29/ set on them, decreases. Likewise there disappears the parallel lining up of the main chains in a northeastern direction, a trait which is so marked in Transbaykal. The main mountain chains in the Amur country, on the contrary, run predominantly from west to east, while others cross them almost at right angles. Thus, in contrast to Transbaykal, the geological features have greater dimensions here, where broad plains are inserted between the individual mountain chains, and toward the Amur these plains assume the character of low plains. The thickly settled Zeya-Bureya Plain should be mentioned first. But here too the corresponding traits appear which--apart from the mountains--are expressed in the main direction of the rivers and their valleys. A southwest-northeast direction (like Lake Baykal), such as occurs in the course of the Argun, the Selemdzha, the Bureya, and the lower course of the Amur, crosses a northwest-southeast direction, which appears most clearly in the middle course of the Amur and in the direction of the Gilyuy. Many rivers, such as the Zeya, follow first one direction and then the other.

The difference in the landscape from Transbaykal is great since the Pacific Ocean has a powerful effect on the Amur country which lies in the sphere of the east Asiatic monsoon. The nearness of the great continental mass, to be sure, brings harsh winters; but the summer is warm and brings at the same time heavier rainfall than in Transbaykal. Generally the annual rainfall is more than 500 millimeters, of which usually more than half falls in the three summer months of June, July, and August alone and brings forth a most luxurious plant growth. While in Transbaykal the valley areas remain free of tree growth because of the dryness, here there is excessive dampness, which makes it impossible for forests to thrive in the valleys, meadows and level areas. This excess of summer rain gives the landscape its special stamp. Swampy reed thickets along the rivers, broad meadowlands covered with high grass and lying on the higher plains, giving way to little woods on the dry hills, and on the slopes and ridges of the high mountain chains forest thickets often difficult to penetrate and, in contrast to the Siberian taiga, containing oaks and deciduous trees--these are typical of the entire Amur country.

The excess of dampness in vegetation season is a handicap

311 The excess of dampness in vegetation season is a handicap even for agriculture and makes difficult the extension of the cultivated areas. New land for cultivation must as a rule be won laboriously from nature by drying it out. More and more the extended Zeya-Bureya Plain and the area along the Amur have become quite thickly settled, and large parts of the famous "Amur [162] Prairie" have been transformed into cultivated land. It is predominantly Russians who live here. The Chinese who immigrated here earlier have been pushed back over the Amur--in part by force. In all the rest of the area, however, /30/ untamed nature dominates the landscape, which is traversed at most by a few Tungus or Russian 316 hunters. A wealth of gold has lured numerous Russians into this wasteland, too, especially in the area around the upper courses of the left tributaries of the Amur. A locally very active gold industry has come into existence, which today is organized by the state and which has drawn even this distant region into the economy.

133 The Ussuri country is divided into two completely different parts: the huge mountain mass of the Sikhote-Alin', which fills the entire area from the Bay of Peter the Great in the south to the mouth of the Amur in the north; and the Ussuri-Khanka lowlands, which extend west of the Sikhote-Alin' in the same direction and continue south of the Khanka Lake without marked interruption as far as the Bay of Peter the Great.

The Sikhote-Alin' is a forest-covered, strongly valleyed /zertaltes/ mountain mass, which is divided into several ridges running parallel to the coast. The shapes of the mountains are soft without especially marked edges and projections. More often plateau-like shapes predominate here, too. The heights in general lie between 650 and 850 meters; the valleys, however, are deeply carved out. Rising slowly from the west, the mountain mass descends steeply to the sea and only rarely leaves free a narrow coastal indentation plain on which there arises small, poverty-stricken fishing villages. The nearness of the sea crossed by a cold stream causes a cool, foggy, rainy, unfriendly summer, thus producing similar conditions to those found on the entire coast extending to the north beyond Okhotsk. Swampy valleys and forests dripping with a cool dampness and with a more northern stamp are typical marks of this area.

132 The western side of the Sikhote-Alin' and the Ussuri-
137 Khanka lowlands, on the other hand, correspond more to the Amur country. Warm to hot summers joined with high rainfall and a

strong inclination to marshiness are distinguishing marks for this area. 132
The Sikhote-Alin' stretching parallel to the coast keeps back the 137
coolness and also the fog from the sea and allows the sun to have a
stronger effect. Everywhere the more southerly position makes it-
self apparent. In the forests of Sikhote-Alin' deciduous trees appear
more and more in the foreground, increasing toward the south, until
finally, in magnificent specimens, they form the sole type of tree.
n the cultivated zone, too, which stretches along the entire lowlands, 311
typically Manchurian-Chinese plants become noticeable in increasing [241]
measure toward the south. Kaoliang and other millet, soya beans,
and rice appear noticeably on the scene. There is a change in the 162
population, too. In the northern part of the lowlands, as far as Khanka
Lake, Russians and Ukranians predominate; in the extreme south,
Chinese and Koreans are in the majority. The Ussuri-Khanka low-
land is relatively thickly settled, the Sikhote-Alin' itself, on the [316]
contrary, is in large areas as good as uninhabited, except for some
mining areas in the south, where /31/ coal primarily is mined.
Native Tungus traverse the Sikhote-Alin' in smaller numbers than in
the old days, and in addition there are Russian hunters and Chinese
collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional 131
direction. The southern part is traversed by two parallel mountain
ridges, which are separated from one another by a relatively wide
depression. The eastern mountain chain is shorter but higher, and
its peak of 2,013 meters is the highest elevation on the island. To-
ward the north the mountain ridges flatten out and give way to a
hilly plain. The cool, foggy air masses blow unhampered over the
land here, while in the south a difference in climate is caused by
the mountain chains. The eastern slopes are cool, rainy and un-
friendly, while the western side appears somewhat milder. The
southern parts of the island, which were Japanese from 1905 to 1945
and only now have again become Russian , are generally more favor-
able. In terms of its landscape, Sakhalin can be designated a damp,
cool, forested mountain country, but in numerous places treeless
moss steppes appear, which recall the tundras of the north. Once
feared as a Russian prisoners' colony, Sakhalin is advancing economical-
ly more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encom- 133
passes, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina
Bay in the extreme northeast. In the western part, which stretches

133 from the Uda Bay approximately to the harbor of Okhotsk, the mountainous rampart of the Dzhugdzhur runs parallel to the coast, to which the mountain descends steeply and abruptly. Only seldom does a narrow coastal margin offer an opportunity for establishing a fishing settlement. The way from the coast into the interior of the land is extremely difficult, for only narrow river valleys, etched out like ravines, are available for this: these rivers hasten over their short course into the sea from the ridges of the mountain rampart. For this reason Ayan, the sole harbor on this coast, can't develop. Only near Okhotsk does the foreland broaden into a coastal plain and offer easier routes into the interior of the land. The eastern part of the coastal region from Okhotsk to Penzhina Bay is, on the other hand, very much broken up and has numerous peninsulas and off-shore islands. Here the spurs of various mountains run into the coast almost at right angles, and in between extended, gently rising valley areas extend into the interior. The manifoldness of the formations is increased more by a mountain chain which, running parallel to the coast, appears only in the peninsulas. In terms of its landscape the coastal area presents the same face everywhere. Thick forests cover
133 the slopes and fill the deeply cut-out valleys of the numerous rivers
137 and brooks, most of which are short and which flow into the sea. On the higher tops and mountain ramparts, however, tree growth can no longer develop. Crippled shrubs or /32/ more often moss blankets cover these areas, while the highest projections, like bare gol'tsy, extend beyond the vegetation line.

From the northeastern end of Penzhina Bay a broad lowland extends to the northeast into the interior of the land and continues into the Anadyr' lowland, interrupted only by a narrow watershed-crossbar, which is at most 500 meters high. The Anadyr' lowland opens to the east on the Bering Sea. Both the Penzhina and also the Anadyr' lowlands are very much broken up by numerous mountain and hill ridges projecting into the lowlands. In terms of landscape they both have the same stamp. In the higher areas between rivers broad moss tundras cover the land. However, large poplar forests extend to the rivers, and these forests turn into fir-pine forests in the mountainous border areas beyond the upper courses of the rivers. In general one can consider the landscape to be a wooded tundra.

133 In the north the Anadyr' area is adjacent to the Chukchi Peninsula. Although the peninsula's coasts are very well explored, its interior is still fairly unknown. Two rubble-covered mountain

chains traverse it from west to east, and these mountain chains with their spurs in part reach the coast, where they break off sharply. But this area also does not lack plains, for plains extend from the coast into the land on both sides of the rivers. 133

All these areas[1] are either very little settled or are completely uninhabited. Of the Russian coastal settlements only Okhotsk and Magadan as harbors have a certain importance. Worthy of note is the reindeer breeding of the Chukchee on the peninsula named after them. 311

South of the Anadyr' lowland rises the Koryak Range, which fills the entire area as far as Korff Bay. Some mountain ridges, only a little separated from one another, traverse the land in a wide arc from the southern end of the Anadyr' Bay in the direction of the Kamchatka Mountains. Only near the coast have the rivers dug out deep valleys; here forest growth appears, while the high areas and the ridges are covered by pure tundra. 133 [137]

The coast of the Bering Sea has numerous native and Russian fishing settlements; the hinterland, on the other hand, is occupied only by small Paleoasiatic remnant peoples, who pursue reindeer breeding. [361]

Kamchatka Peninsula is one of the most interesting regions in the Soviet Russian Far East. The relief, which just like Sakhalin gets its main characteristics from two mountain ridges, is extraordinarily varied, for numerous young volcanos are set on the mountain ridges, and a number of these volcanos are still active. The Klyuchevskaya Sopka, the highest volcano on the peninsula, rises from the valley of the Kamchatka River to a height of 4,775 meters and makes an imposing picture with its ice-capped peak. Because of the abundant rainfall and the mild climate, the plant covering of the peninsula is very luxurious. On the outer mountain slopes deciduous forests predominate, only /33/ in the interior of the peninsula do fir-pine forests appear. The only exception on a larger scale is the west coast, on which tundra-like moss steppes have developed. In addition to numerous Russians who occupy primarily the coastal fishing villages, the Paleoasiatic Koryak and Kamchadal have remained in the interior. 137 162 361

The volcano belt of Kamchatka continues toward the south in the island chain of the Kurils, which after World War II went to the Soviet Union along with the southern half of Sakhalin Island. 133

1 [i.e. the Okhotsk coastal area and the Anadyr' area -- Analyst]

Geological Structure and Morphological Formation

133 The geological history of the entire Far Eastern region is determined by the "Old Siberian Mass." The Angara country forms the core of this shield which was already rigid in the earth's early history. Around this old, early stiffened mass, resisting all orogenic movement, the earth's crust laid itself in broad fault zones, which, although with interruptions, belong to more recent periods the more distant they are from the old mass. Accordingly we see the most recent Tertiary mountain formations appearing only on the extreme rim on Sakhalin and Kamchatka. These folds have a second result of extreme importance for the morphology of the entire area: every younger orogeny, through its powerful tectonic pressure, destroys the older, already non-active fault and stiffened zone and leads to the formation of breaks and vertical displacements, and indeed often to over-extensions /Überschiebungen/ on the edges. Since in this regard every new fault exerts its effect internally toward the old mass, the result is that the degree of disturbance and breaking up of the old mountains into individuals masses, clods or horsts decreases toward the outside, and accordingly fault mountains have preserved themselves the best in the outer border zone. If individual details are overlooked, these large traits of geological structure appear throughout the land.

Transbaykal for the most part belongs to the oldest part of the continent, the "Old Summit of Asia," as Suess named it. Already in Pre-Cambrian times a mountain arose here with narrow, steep faults, which in the area discussed ran from southwest to northeast, i.e., in the direction which Lake Baykal runs. Strong wearing away lowered this mountain into a mountain root /Gebirgsrumpf/, almost a plain, which then later was broken up into individual parts by disjunctive movements, especially by breaks. The horst and graben formations produced thereby are of striking importance for the morphology and hydrography of the land. The mountain ridges which we encounter today in Transbaykal, are nothing but standing or elevated horsts, i.e., remainders of Pre-Cambrian mountain roots. In this the shield movements, which were repeated in several phases until Post- /34/ Tertiary times, have kept constant the strips in the line of Lake Baykal which have been predominant since Pre-Cambrian times. Marked by the old fault mountains, all tectonic lines extend from southwest to northeast. From this results long horsts and grabens, which can often be followed through all Transbaykal. Only seldom are they

crossed by diagonal depressions and slight diagonal sills. Lake Baykal 133
belongs to the most recent breaking-in of the region. It is certain that it already existed in the Miocene period, although its final formation took place only in the late Tertiary era through the elevation of its surroundings. Its basin consists of four grabens, of which three extend in the same direction as Lake Baykal, while the most southern one follows the course of the Sayan. The Sayan Range, which is faulted onto the southwestern border of the Angara Mass, shows in its oldest structure a construction similar to the old Baykal Mountains, but it is somewhat younger. It stretches from northwest to southeast and thus runs into the Lake Baykal direction almost at right angles. This direction of strips is generally designated as the Sayan direction. Only the spurs of the Sayan extend into Transbaykal. It is still not clear whether the Sayan direction bends here into the Baykal direction or whether the two, coming together here, run out toward the south.

In the horsts of Transbaykal there appear everywhere on the surface bare deep stones /Tiefengesteine/ of the primitive mountains, especially granite, syenite, gabbro, and in addition to these there are metamorphic rocks of Pre-Cambrian times, especially gneiss, crystalline slates, marble, and quarzite. These stones determine the predominantly soft morphological forms of the flat ridges, from which here and there individual cores project from the rounded tops. Where, however, effusion /Erguss/ stones, especially porphyry and porphyrite, have participated in the formation of the surface forms, the formation is more lively and more varied. The 2,508 meter high Sokhondo in the area around the source of the Ingoda is from porphyry and its tufa and downright Alpine mountain forms full of valleys. Basalt extends over a larger area only in individual grabens, i.e., on the upper Vitim, in the Tugnuy trough, between the Tsagan-Daban and the Saganskii Mountains and in the Khilok graben. In general basalt effusions resulted. Only on the upper course of the Vitim do the eruptions in the Obruchev, Mushketov, and Lopatin volcanos have outspoken crater forms, which project from the surroundings, however, only about 100 to 160 meters.

Toward the northeast the internal horst region of Transbaykal turns gradually into highland-shaped formations. On the Vitim Plateau, the first representative of this region, whose high plain-like character is strengthened by the basalt covering laid over it, additional mountain ridges with similar surface forms are adjoined. In general the Transbaykal character is preserved. Here, too, Pre-Cambrian

133 rocks form the base of the extended horsts. Wide grabens, however, are lacking. As a consequence, the results of the /35/ forces of water, ice, and wearing away by frost, forces whose shaping effects have occurred more recently, can be observed much more clearly. Typical are the deeply-etched valleys, which follow the break-lines but often likewise go their own way. Also the strips going in the Lake Baykal direction can be followed everywhere in spite of the high plain character. In the Patom Plateau, however, north of the lower course of the Vitim, this clear unequivocalness disappears. Probably the basic mass of the plateau consists overwhelmingly of metamorphic stone series of Pre-Cambrian times, and the main fault is Pre-Cambrian, but the lines stretching in the direction of Lake Baykal are lost here. In a sharp curve, convex toward the north, the fault turns to the east and east-southeast. The damming-up effect of the archaic Aldan mass makes itself noticeable; the Aldan mass like the Angara country, belongs to the core of the Siberian primeval shield. The faults extend along the southwest and southern border of the Aldan mass until they experience a strong demolition east of the Olekma in the zone of the Stanovoy Range.

The horsts of the high plain region mostly project more markedly than in the actual Transbaykal area. Generally they are between 1, 000 and 1, 500 meters high, and projecting above them up to more than 2, 300 meters are numerous mountain cores consisting predominantly of intrusive stones. Of economic importance is the fact that the old Proterozoic masses conceal numerous ore deposits. The richest gold mines in the USSR lie in the area of the Vitim and the Patom. Besides the gold-quartz veins still existing, gold is found in the permafrost diluvia metals and sands of the river valleys, however, mostly secondarily.

The system of the Stanovoy Range begins east of the Olekma and north of the mouth of its tributary the Nyukzha. This mountain range forms the southern Proterozoic border of the Aldan mass and because of the resistance of the latter, this mountain range forms the continuation of the Transbaykal root plain, bending somewhat toward the south. Stretching out in many places are the old faults which form the trunk, but these faults extend from southeast to northwest so that the tectonic and orographic stretches /Streichen/ do not always coincide. A similar stretch of Pre-Cambrian faults from southeast to northwest can also be seen in the area around the upper course of the Olekma in the north of the large Amur arc. Also the trough points

to tectonic tendencies in the same direction, as does the course of the middle Vitim. The coming into being of the Stanovoy Mountains was therefore completed in part independently of the direction of the old faults and goes back to later breaks with horst and graben formations; in this the abutment of the Aldan mass became decisive for the present orographic stretches /Streichen/ of the system, which extends from west to east in an arc which is slightly convex toward the south. In connection with the breaks there has also been the thrusts of eruption stones which extend especially on the northern border and which have caused steep mountain forms to come into being locally. The real ridges have a high plain character and generally lie 1,200 meters above sea level. The highest point, north of the /36/ source of the Zeya, attains a height of 2,482 meters. Typical of a large part of the Stanovoy Range is a sloping to the south in gentle steps.

The Stanovoy Mountains extend to the east as far as the Maya, a tributary of the Uda. To the east they adjoin the Dzhugdzhur Mountains, which extend to the northeast as far as the Okhota River on the coast of the Sea of Okhotsk. They are the main chain of three parallel mountain chains, and consist primarily of gneiss, granite, and porphyry. But they also have slate and limestone folded in, whose fauna belong to the upper Devonian era. This brings with it the variegated /variscische/ formation of the Dzhugdzhur, which undoubtedly is adjoined in the west to the older zones, which form the eastern border of the Aldan massif.

Mesozoic fault zones, extending to the Sea of Japan, adjoin on the south and southeast the block of the Pre-Cambrian faulted area in Transbaykal and of the Stanovoy, a block which seems to be a single unit. In individual regions these zones are unevenly developed and are also preserved unequally. Because of the fact that knowledge of this land is still slight, many tectonic movements still can't be ordered in time or limited, and only a general, over-all description can be given.

Following the Pre-Cambrian region is a broad zone of Caledonic and variegated /variscische/ faults, which extend from Mongolia to the Sea of Okhotsk and follow the strip direction of the older zone. The eastern parts, including the middle Amur region, into which the Triassic and Jurassic Sea was able to penetrate, belong to the Cimmerian Orogeny, which probably can be regarded as the most powerful in the Far Eastern region. It penetrates far into the interior and overpowers

133 the preceding older formations more or less strongly, dismembering them into clods /maybe: shields/ and causing rises and depressions. Toward the outside the Cimmerian zone is displaced by the Tertiary, alpidic orogeny. Sakhalin, Kamchata, and the Koryak Mountain Range, which is surrounded by the Penzhina-Anadyr' depression, are considered as belonging to this orogeny. On the continent in the Amur area the Tertiary events produced bends and clod movements.

In the southeastern part of Transbaykal the horst character predominates as it does in the rest of Transbaykal, but the typical graben formation recedes, and the individual mountain ridges are mostly formed by simple dislocations. The stronger tectonic processing of this region goes back to the Mesozoic orogeny which already appears here. The Cimmerian mountain formation dominates incontrovertibly in the Shilka Hills northeast of Nerchinsk. Also further to the south in the Nerchinsk Mountain Range north and east of the Borzya railroad station, there are pre-Jurassic and post-Jurassic faults with northeastern lines, and on the upper course of the Ingoda old northwestern faults appear, which lie under a more recent fault following the line of Lake Baykal. The border of the old Lake Baykal root plain, which was no longer incorporated by the Mesozoic /37/ orogeny, must be sought west of the Nerchinsk-Borzya line.

The Yablonovyy Ridge, which in its entire course belongs to the Pre-Cambrian horst region, extends south of the upper course of the Vitim and its tributary the Kalakan in a northeasterly direction almost as far as the Olekma. North of the end of this ridge individual mountain tops in the Kalar Mountain Range reach considerable heights (Golets Skalistyy 2, 800 meters; Golets Snezhnyy 2, 615 meters). These regions, to which the Olekminsk Stanovik in the area around the upper Olekma also belongs, are still incompletely explored. Brief mention can be made of this latter area.

The Stanovoy Range declines toward the south into the upper Zeya Plain, which continues toward the west in the Gilyuy Valley at the foot of this mountain range. This valley is a large graben depression, which is filled with gold-bearing river beds. Its center is 329 meters deep. On the south the depression is closed off by a long mountain chain, which runs from west to east analagous to the Stanovoy. This is the Tukuringra-Dzhagdy Mountain Range. The Yankan Ridge acts as the connecting link to the west with the Olekminsk Stanovik. The entire mountain chain consists primarily of gneiss, granite and crystalline slates. However, it has been con-

firmed that Paleozoic elements are included in the fault, and accordingly the Pre-Cambrian age assumed earlier probably does not apply to the entire chain. Local break lines traverse the mountain mass and follow it especially at the southern foot. The wave-like upper surface is heavily eroded, and projecting beyond it to heights up to 1, 600 meters are numerous tops of mountain cores. The height of the central pass is between 900 and 1, 000 meters. The Tukuringra Mountain Range is bored through on the south by the Zeya River, the sole drain from the closed-off graben depression, which is named after it /i. e. Zeya/. Terrace formations point to more recent vertical movements. From the River Dep, a left tributary of the lower Zeya, the mountain chain bears the name Dzhagdy Mountain Range. It is connected with the Stanovoy by a broad, high ridge, which cuts off the upper Zeya Plain on the east; generally in the Dzhagdy Mountains the two main strip directions to the northwest and the northeast are manifest and cause the winding course of this mountain range. Its ridge forms the watershed between the Uda, flowing into the Sea of Okhotsk and the Selemdzha belonging to the river area of the Zeya. The region of the source of the Selemdzha is surrounded almost concentrically by high mountain ridges, which form the northern part of the Bureya Mountain country.

The Bureya Mountain country comprises the entire region of the river of that name, and in addition sends out spurs to the lower Amur and the Amgun'. In it the strip direction toward the northeast is again clearly manifest both in the Turan Ridge west of the river and especially also in the Bureya Mountain Range, the backbone of the entire mountain country. The Bureya Mountain Range is a continuation of the Lesser Khingan lying in the Manchurian area, and is therefore often also designated by the same name in Russian territory. The Amur cuts through /38/ the mountain chain in a more then 150 kilometer long valley, which is often scarcely one kilometer wide and which is lined by high rocky banks. Here on the Amur, the Bureya Mountain Range is only 200 to 500 meters high, but it rises toward the north, where between the area around the source of of the Selemdzha and that of the Bureya it has the greatest elevations in the area with heights of 2, 155 and 2, 119 meters. Here parts of the mountain chain also have special names locally, for example the Duse-Alin, which surrounds the source area of the Bureya, and the Yam-Alin, which is up to 2, 000 meters high. In addition to the gneiss, grantite, and metamorphic slates, there are extensive deposits

133 of porphyry and diabase, and in the south Jurassic sediment especially. The valley of the Bureya has extensive deposits of strongly dislocated Jurassic hard coal. The ridges often have the character of greatly cut up high plains.

The wide plain on the middle Amur is divided into two parts by the lower course of the Zeya. West of the Zeya stretches the Amur-Zeya Plateau, to the east is the Zeya-Bureya lowland. The first is a high plain, which generally lies 250 meters high and consists of flatly laid out Jura and brown coal-bearing Tertiary; this high plain bends gently from northwest to southwest. The watershed areas are very flat; the valleys, on the other hand, are deeply etched. On the steep banks of the Zeya the Tertiary, reckoned from the river bed, has a thickness of 150 meters. Therein appears in many places granite, gneiss, and, in some places, porphyry, melaphyre, and basalt. The area between the Zeya and the Bureya is higher in the north and has here a hilly terrain. On the left side of the Zeya and along the Amur extending beyond the mouth of the Bureya to the east is a pronounced lowland, which is principally filled with recent Tertiary deposits. In open lodes of individual hills, however, old stones appear, too. The entire region of the middle Amur owes its present form to an incurvation in large waves of the root plain in the Tertiary period. However, still later vertical movements occurred, too, as is indicated by four clearly formed terraces both on the Zeya and also on the Amur. The highest lies 100 to 120 meters above the present level of the lower course of the Zeya.

The region around the lower Amur, which begins at Khabarovsk, can be regarded as a long graben depression between the Lesser Khingan and the Bureya Mountains on the one side and the Sikhote-Alin' on the other. The region north of the lower Amur which has still been but little explored is very much broken up. Here, too, the faults stretch predominantly toward the northeast as in the Bureya Mountain country, but the disturbance of the structures, which go back to two variegated phases following one another, is extraordinarily great. The bays south of the Shantar Islands can be regarded as graben breakins, while the islands themselves, which are formed from slate and granite, are remaining horsts.

Actually the lower course of the Amur, comes very close to the sea with its Kizi and Kada lakes. But after a turn to the north, it takes in the Amgun, making a sharp /39/ turn to the east, where it empties into the sea. This phenomenon can be explained by

andesite and basalt overflows, resulting here from the formation of the Sikhote-Alin' and by later crust movements.

The Sikhote-Alin' is a mountain block surrounded on all sides by breaks. Only in the south is there a covering formation. The main fault with overextensions toward the northwest occurs in the Lower Cretaceous /Unterkreide/. The faults stretch toward the northeast to east-northeast. Steep breaks occurring later have cut up both the Sikhote-Alin' and also the Ussuri country and led to rises and depressions. The main break lines follow the lines of the mountain faults. Thus the Ussuri depression came into being as a break-in. The coast, too, came into being through a breaking-off. In the north, opposite Sakhalin, however, the coastal break line bends toward the north and converges here with the lines of the faults. In the south the Sikhote-Alin' ends with a cross break. The following facts on stone composition are of greatest importance for the present surface forms. In the central and also the border sections, granite predominantly forms the oldest layers. It appears in the old surfaces and in the lower slopes as a pronounced massif, while the flanks mostly are covered by younger, heavily faulted and destroyed stones--in the west predominantly by crystalline slates, gneiss, micaschist, and quartzite; in the central part predominantly by phyllite, argillaceous schist, silicious schist, and sandstone. Of the effusion /Erguss/ stones, porphyry as a rule forms the numerous round tops, while basalt is represented in the extended cover effusions. The southern part of the Sikhote-Alin' is differentiated from the northern by the appearance of overextension covers /Überschiebungsdecken/. In numerous places, especially on high mountains, marbled limestone of Permo-carboniferous age, forming thick layers, lies in the form of individual clods. Also the northwestern topplings over of Jurassic and Triassic point to over-extensions /Uberschiebungen/. These must have occurred in the period between the upper Jurassic and the Miocene and have come from the direction of the Sea of Japan. The surface forms are predominantly of a single form. Long, vallied ridges with tops set over them, and winding, unequally formed valleys, often with convex slopes, are characteristic. In the basalt coverings the rivers have dug deep, canyon-like valleys. Of significance for the newer relief formation are the vertical movements, begun in the Diluvia age but still not completed at present. Broad abrasion terraces lie near Vladivostok reaching heights of 10, 30, 50, 120 meters and, in individual places, up to 300 meters. At present

133 the southern coast is sinking while the east coast apparently is rising. A consequence of the old and late Diluvia elevation is the crooked position of the entire Sikhote-Alin' block with its inclination toward the interior of the land.

The alpidic fault zone is limited to the extreme outer areas and is retained only in fragments. From there arise indications of two large fault arcs. The western one appears on /40/ Sakhalin and reappears apparently on the northern coast of the Sea of Okhotsk in the Chutkavar Hills west of Magadan and on the Koni, P'yagina and Taygonos Peninsulas, to circumscribe the Penzhina depression on the west and the Anadyr' lowland on the north in a swinging arc. Kamchatka, along with the Koryak Mountain Range adjoining it on the northeast, forms the core of the second arc, while the Kuril arc is a continuation toward the south to the Japanese Islands, where the two fault arcs come together on Yesso Island. The western arc is distinguished from the eastern one by the lack of active volcanos, which distinguish Kamchatka and the Kurils especially.

On Sakhalin continental formations alternate frequently in the sediments of the Upper Cretaceous /Oberkreide/ and thus indicate that the island is located on the border of a geosyncline. The two mountain chains, which are separated by the long Tym and Poronay depressions filled with marine recent Tertiary, differ substantially from one another. The eastern mountain range projects up to 2, 013 meters and shows break and shield formations in addition to an older, probably variegated /variscischen/ fault with heavy intrusions. The western mountain on the other hand consists only of more recent rocks, especially Upper Cretaceous and Old Tertiary. The Tertiary fault stretching meridionally repeats, therefore, the variegated /variscische/ direction visible in the eastern range. The faulting is irregular in individual places and decreases toward the north. Of the three Tertiary phases which are distinguished, the youngest is expressed predominantly in long breaks with effusions both on the west and on the east coasts. The vertical movements appearing with these have lasted up to the present. In this the northern tip of the island is sinking, while in the middle of the island marine Quarternary has risen up to 150 meters and five beach terraces are visible on the banks.

The structure of Kamchatka is similar to that of Sakhalin. A break-in zone running approximately toward the north-northeast, and containing the Kamchatka River which flows from the south and the

Yelovka which comes from the north to meet the Kamchatka, divides two mountain chains, which run parallel toward the north-northeast in the same direction. Also on Kamchatka, in the eastern part, there are remains of an old Caledonic or variegated /variscischen/ zone, whose faults, however, extend toward the northwest and meet the Tertiary faults at right angles; this, as well as other causes, explains the destruction which is so pronounced even for the east. The western range is a 1, 000 to 1, 200 meter high middle mountain range. Basically it consists of crystalline slate and phyllite, on which sandstone and slate, presumably of Paleozoic age, are deposited, and of Upper Cretaceous and Tertiary from Oligocene to Pliocene with heavy effusions, which are faulted several times with north-northeast strips and overextensions toward the southeast. West of this mountain chain stretches a cut-up coastal table, elevated to 600-750 meters and consisting of dislocated marine Pliocene deposits, partly also of Upper Cretaceous; this coastal table slopes to the Sea of Okhotsk /41/ in several beach terraces. This coastal zone, too, appears to lie in gentle waves and is broken through by isolated elevations consisting of eruptive rock. The western chain conceals numerous extinguished and heavily destroyed volcano ruins. In the center rises the 3, 607 meter high Ichinskaya Sopka with its mighty dome and some sloping glaciers. It is the only active volcano in the western half of Kamchatka, and its crater constantly expels clouds of smoke. In contrast to the straight, elevated west coast, the east side of Kamchatka is much broken up by numerous break-in basin-shaped valleys. The eastern mountain range is very heavily destroyed, in many places overlaid by volcanic masses; and therefore only fragments of the original structure are visible. Granite and crystalline slates are indicated here as Proterozoic. The tectonic action /Durcharbeitung/ is so strong that even the Pliocene is shoved over /überschoben/. Connected with this destruction are the especially heavy volcanic formations on the eastern side of the peninsula, and in this the eruptions as a rule follow the great breaks, which run perpendicular to the faulting. Of the 127 known volcanos, 74 are recent volcanic formations, and of these 18 are still active today. The most important is the immense, regular andesite basin-shaped cone of the Klyuchevskaya Sopka which has a height of 4, 775 meters and is covered down to 1, 500 meters with perpetual snow and glaciers. The Commander Islands also have recent volcanos. Tertiary is also

found on them.

Kamchatka Peninsula is connected with the mainland on the north only by a narrow plateau which is up to 155 meters high, the Parapolskii-Dol, which was elevated only in recent times. North of this narrows stretches the Koryak Mountain Range, which really is a broad zone and which with its mountain ridges continues the faults of Kamchatka in the same direction. The three known main chains, the Palpal, the Tingeney, and the Rarytkin, consist, according to knowledge to date, of Cretaceous and Tertiary deposits with basalt eruptions. The present formation of the area appears to go back more to more recent clod /Schollen; maybe, shield/ movements, which were their strongest in the Diluvia and which gave rise to dispersals and even block overextensions /Blockuberschiebungen/. Elevation dominates on the coast today, too, and on this elevation two elevated beach terraces can be observed. However, the entire area of the Koryak Mountain Range is among those little explored areas, and accordingly further clarification must await the future.

The Kuril arc adjoins the southern tip Kamchatka. Twenty-three islands have volcanos, of which 18 are still active.

Knowledge of the Anadyr' region and of the Chukchi Peninsula is still very slight. Only the coastal areas are better explored. The line of the mountain chains appears to be varying and is influenced by an older core of the "Chukchi Mass" lying in the north; around this mass the mountain chains order themselves in a similar fashion to the way they do around the old Angara mass. /42/ Thus a main fault line stretches approximately from west to east through the Chukchi Peninsula, and this line apparently consists of two chains. Also further south, in the Kolyma area, the chains fit into this order with a line from southeast to northwest. In time these orogenies belong to the Mesozoic.

The Ice Age and Its Traces

Most of Transbaykal and the Far East was spared the Quarternary glaciation. The nearness of the Central Asiatic heights with land air currents in the winter and with resulting slight rainfall in the cold season may have contributed significantly to this in wide areas of the country, while in others the southern position can be assumed to be an additional reason. Where glaciation was able to form, special local conditions must have led to this, but research still cannot

give a final judgment on the reasons for these special conditions. Only three sections were gripped by the glaciation in large measure: the extreme northeast, Kamchatka Peninsula, and the area east and northeast of Lake Baykal. Even in these regions the extent of the glaciation was limited mostly to the mountains and the higher parts of the land, while lower plains remained free of ice; accordingly the glaciation--even though in spots it may have extended over quite a large area--had only a local character here, which cannot be compared with the mighty ice-covering which Europe experienced.

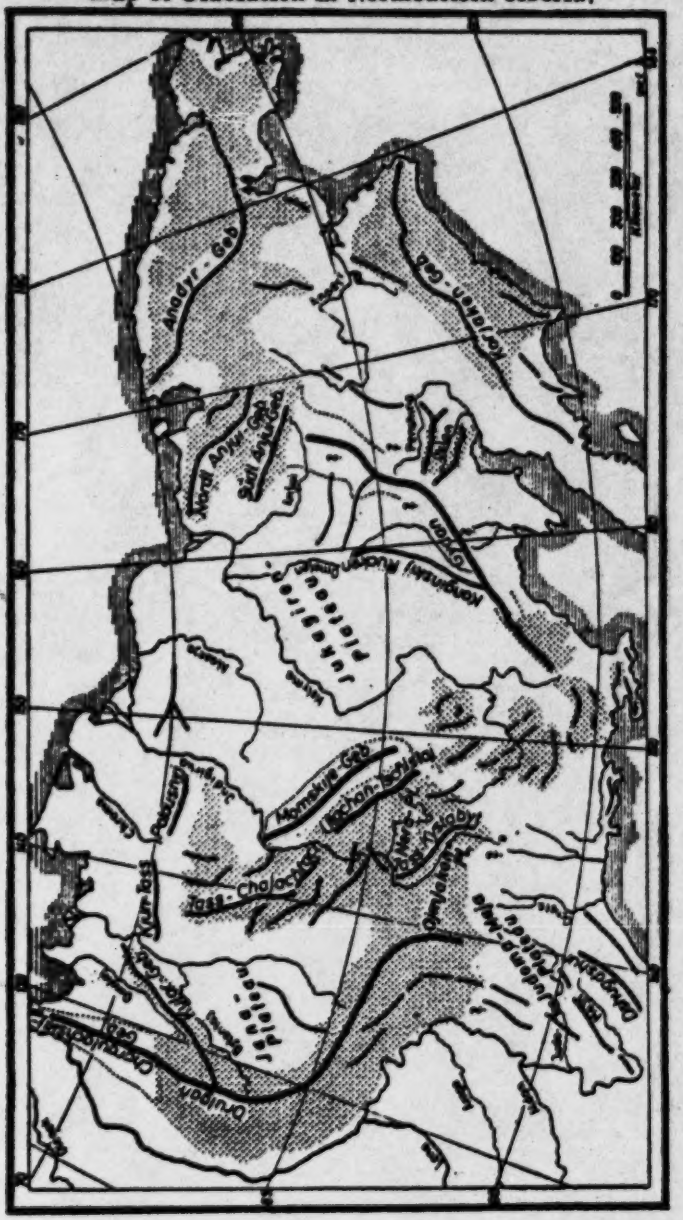
The glaciation of the extreme northeast is related to the similar occurrence in all of northeastern Siberia, and together these glaciations form an entire complex of ice-covered mountains and of ice-free plateaus and plains lying in between the mountains. The area of glaciation extends over the entire area from the lower course of the Lena in the west to the Chukchi Peninsula in the east. The glaciation of this region stands in contrast to the conditions in central Siberia, which remained ice-free for the most part. The next glaciation area is far west of the lower course of the Lena in the river valley of the Khatanga. Thus the northeast Siberian glaciation area forms a specific unit in which the same conditions are predominant. In order now not to remove the areas belonging to the Far Eastern region from this context, since they, of course, constitute only a part of northeastern Siberia, we must be permitted to go into detail on the Ice Age conditions in the entire area in order to get a better survey. But here, too, the limitation must be made that, because of the still inexact investigation, exact details can be given only for individual areas, while in the rest we must be satisfied with a general picture. In this connection mention may be made /43/ /Map of Glaciation in Northeastern Siberia:/ /44/of the author's essay, "Die Eiszeit in Sibirien" in the periodical Erdkunde /Earth Science/ (Bonn 1951, Vol. V).

The glaciation east of the Lena sets in with the arc of Verkhoyansk Mountain Range. This begins in the north with the 1,200-1,300 meter high Kharaulakhskiy Mountain (Kharaulakhskiye Gory), whose spurs extend into the Lena Delta. There is still not general agreement whether or not this mountain experienced glaciation. Some researchers, such as Parkhomenko (149) and Saks (170)

149. Parkhomenko, S.G. Nekotorye dannye o prirode Nizhnelenskogo kraya /Some Statements on the Nature

Map of Glaciation in Northeastern Siberia:

133



The dotted areas give a survey of the glaciated regions. Since--apart from the area between the mouth of the Kolyma and the Chukchi coast and the Koryak Peninsula--the glaciation is of the Alpine type, the area appears disproportionately large. The picture is unclear on the mountain ranges outlined by dotted lines. / 45/

B3 of the Lower Lena Area/. Trudy of the Commission for Research on Yakutia, 1928.

170. Saks, V.N. "O chetvertichnom oledenenii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

answer this question with a yes, while others, such as Romanov (160)

160. Prasolov, L.I. Iuzhnoie Zabaikal'ye /Southern Transbaykal/. Material for Ground Research in Asiatic Russia. Moscow, 1927.

and Vollosovich answer this question with a no, although even today the mountain still has ice caps. There is no question about the Orulgan Mountain Range, which extends up to 2,000 meters in height and which adjoins the Verkhoyansk on the south. The Orulgan has incontrovertible signs of an extensive valley glaciation (84). The glaciers

84. Ivanov, A.P. "Novye dannye o geologicheskom stroenii i polesnykh iskopaemykh Orulganskogo khrebta /New Information on the Geological Structure and the Natural Resources in the Orulgan Area/," Problemy Arktiki, No. 4, 1938.

rose from the valleys toward the west where they joined with a foreland glaciation and almost reach the line of the present Lena. On the east they extend as far as the Bytantay, a left tributary of the Yana (170).

170. Saks, V.N. "O chetvertichnom oledenienii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

The Kular Mountain Range, stretching on the left side of the Bytantay from the Orulgan toward the northeast to the lower Yana, has also undergone glaciation, according to Saks. The real Verkhoyansk Mountain Range, which begins in the area around the source of the Bytantay, has heights up to 2,000 meters in the west and toward the southeast rises to heights up to 2,500 meters. It experienced a similar glaciation to that of the Orulgan Range. Here, too, valley glaciation predominantes, but it was stronger and more extensive than that of

the Orulgan. The glacier appeared toward the southwest and south and, as a closed foreland glaciation, moved as far as the Lena and the Aldan. Its extreme edge reached a distance of up to 200 kilometers from the foot of the mountain range and descended to an absolute height of 2,000 meters. (74, 137). At the time of its greatest ex-

74. Gregoriev, A. A. Geologiia, relief i pochvy severo-Zapadnoi chasti Lensko-Aldanskogo plato i Verkholanskogo khrebta po dannym ekspeditsii 1925 g. /Geology, Relief, and Ground of the Northwestern Part of the Lena-Aldan Plateau and of the Verkhoyansk Mountain Range according to the Information of the 1925 Expedition/. Material of the Commission for the Study of Yakutia No. 4, 1926.

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/ Trudy SOPS, Yakutia Series 1, 1931.

pansion it reached the Okhotsk tract at the passage over the Aldan. Traces of an old glaciation are, according to Saks, also found in the Dzhugdzhur, which stretches along the coast of the Sea of Okhotsk. However, here there is still no exact information on the extent or the type of the glaciation.

The extent of the Verkhoyansk Glacier to the north is still too unevenly investigated to permit final conclusions. Khmysnikov (45)

45. Khmysnikov, P.K. Geomorfologicheskii ocherk Lensko-Yanskogo Kraya /Geomorphological Sketch of the Lena-Yana Area/. Trudy SOPS, Yakutia Series 1, 1932.

found no moraines on the Yana Highland (Yanskoye Ploskogorye). Better known is the southeastern part, the area around the upper course of the Indigirka. Here between the Verkhoyansk Mountain Range and the chains of the Cherskiy Range lie two highlands, the Oymyakon Plateau (the area around the source of the Indigirka) in the south and in the north the Nera Plateau (Nerskoye Plateau, drained from the Nera to the Indigirka); these two plateaus are separated from one another by the Tas-Kystabyt Mountain Range. The Cherskiy Range, which apart from Kamchatka has the highest elevations in northeastern Siberia (the Gora Chen is 3,114 meters high), has a mighty ice covering,

133 which, accroding to S.V. Obruchev (137), has the character of an

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/. Trudy SOPS, Yakutia Series 1, 1931.

inland glaciation. The glacial mass overflows the Nera Plateau (down to heights of 1,000 to 1,299 meters), the /45/ Tas-Kystabyt Mountain Range, which in addition, through its own glacial formation, contributes to raising the entire mass of the ice, and the Oymyakon Plateau (down to heights of 1,500 meters). Here the glacial mass meets with the glaciers flowing toward the north from the Verkhoyansk Range. The entire area between the two main mountain chains has thereby a closed ice covering. The glacial mass on the Oymyakon Plateau is 400 meters thick, according to S.V. Obruchev. (137)

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/. Trudy SOPS, Yakutia Series 1, 1931.

Peculiarly enough the very significant glaciation of the Cherskiy Mountain Range developed only slightly toward the north; the ice masses moving in that direction did not once reach the Momskiye Mountain Range running parallel to the Cherskiy (the river valley of the Moma separates the two mountain ranges). The Cherskiy Range, whose highest elevations project more than 2,000 meters, is supposed, in the opinion of some researchers, not to have been glaciated more, but this is contested by others. Thus, the question of the glaciation of the Momskiye Range still remains unanswered. The Cherskiy Range even today still has glaciers, whose extent, however, it has not been possible to determine up to now. Further north between the Yana and the Indigirka, glaciation of the Tas-Khayakhtakh is still known, and from this range glaciers pressed forward as far as the Indigirka (approximately 68° North). The extreme north, however--the Polousnyy Range--is, according to the newest information, no longer supposed to be covered with ice, despite its height of up to 1,200 meters. (170)

170. Saks, V.N. "O chetvertichnom oledenienii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

The mountain chains in the area around the upper course of the Kolyma show numerous and clear glacial traces (the Garmytshan, Arga Tas, and other ranges), but these traces never lie below 500 meters above sea level, and accordingly only a more local glaciation can be assumed for this area. Also the Kolyma Plateau, adjoining it on the north, has only individual local glaciation centers, which extend over slight areas. More detailed information on these regions is not available.

Between the upper entrance area of the Kolyma and the coast of the Sea of Okhotsk, and also in the southern part of the Gydan Mountain Range (also often known as the Kolyma Mountain Range), the glaciation was again greater and attained here the closed form of an ice covering. This occurred especially on the slopes inclined toward the Sea of Okhotsk; these slopes were covered by an extensive glacial mass, which at the time of its greatest size was of the Norwegian type. From the heights of the Gydan /also: Kolyma/ Ridge (2,000 meters) the glacier descended as far as the coast of the Sea of Okhotsk (74, 137). Full glaciation is assumed for the northern Gydan lying in

74. Gregoriev, A. A. Geologiia, relief i pochvy severo-Zapadnoi chasti Lensko-Aldanskogo plato i Verkhoianskogo khrebta po dannym ekspeditsii. 1925. /Geology, Relief, and Ground of the Northwestern Part of the Lena-Aldan Plateau and of the Verkhoyansk Mountain Range according to the Information of the 1925 Expedition/. Material of the Commission for the Study of Yakutia, No. 4, 1926.

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/. Trudy SOPS, Yakutia Series 1, 1931.

the interior of the country, and this glaciation continued then as far as the Chukchi Peninsula.

In contrast to the relatively heavy glaciation of the mountain ranges, the plains lying inside the arc of the Verkhoyansk and Gydan Ranges were free from every form of ice covering. This applies both to the higher plateaus and also to the coastal plains and the hinterland, areas which morphologically consist of very different units: the depression /46/ of the Omoloy, the Yana, Indigirka, and Kolyma, the Alazeya Plateau (descending to heights of 200-700 meters) on the

133 eastern side of the Indigirka, the Yukagir Plateau east of the Kolyma (Yukagirskoye Ploskogorye, 300-400 meters high with local elevations of 1,000-1,200 meters). Within these regions older (Vollosovich) and also newer explorations, such as those of S. V. Obruchev (74) and

74. Gregoriev, A. A. Geologiia, relief i pochvy severo-Zapadnoi chasti Lensko-Aldanskogo plato i Verkhoianskogo khrebta po dannym ekspeditsii 1925 g. /Geology, Relief, and Ground of the Northwestern Part of the Lena-Aldan Plateau and of the Verkhoyansk Mountain Range according to the Information of the 1925 Expedition/. Material of the Commission for the Study of Yakutia, No. 4, 1926.

Vakar (224) have found no traces of glaciation. Vollosovich only found

224. Vakar, V. A. Geologicheskie issledovaniia v basseine reki Berezovki /Geological Research in the Berezovka Basin/ Isvestiia of the Geographical Society No. 65, 1931.

sand in the river valley of the Omolon, a right tributary of the Kolyma, which he indicated as fluvioglacial, and shifting rocks, which could, however, have also been transported here by river ice. This slight finding certainly admits of the possibility.

According to knowledge to date, the area between the lower Kolyma and the Chukchi Peninsula is regarded as having been fully glaciated. The indicated of this lies in numerous reports: but the character of the glaciation is not clear. S. V. Obruchev (136) is of

136. Obruchev, S. V. Drevnie oledenenilie i chetvertichnaia istoriia Chukotskogo okruga /Old Glaciations and Quarternary History of the Chukchi Okrug/. Isvestiia of the Academy of Science, 1939.

the opinion that the ice covering was not everywhere closed. The main carriers of the glaciation were the northern Anyuy Mountain Range, in the main section the Anadyr' Range in the west and the ridges of the Chukchi Peninsula in the east. The borders of the entire glaciated area have still not been determined in detail. But there are numerous reports that the glacier in places extended to the coast, thus, for example, on the Chaun Bay in the north, on Cape Chaplin, and in the Provideniya in the east. Toward the south in the direction

of the Anadyr' depression the glacier crossed the foot of the mountains only in slight measure. From the northern Anyuy Range the glaciation zone continues toward the south to the Gydan /also: Kolyma/ Range, but information on the borders of the glacier in this direction is lacking. As Saks (170) reports, more recent research has been made in the area

170. Saks, V.N. "O chetvertichnom oledenienii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

of this glacial region and also on the Chukchi Peninsula, but this research has not yet been published.

The glaciation of the Koryak Peninsula was almost as extensive and as closed off as that in the north. The starting point for the ice masses was the 1,300-2,200 meter high Koryak Mountain Range, and from here the ice masses flowed in a broad front to the sea. In the process they not only covered over the slope gently inclined toward the southeast, but in parts they even reached the coastline. In contrast to the ice flow in this direction, the ice flow toward the northwest to the lowlands of the Anadyr' and the Penzhina was slight.

Apart from the northern and southern edges, the Anadyr' Lowland is itself free of all traces of a glaciation, as Polevoi (155),

155. Polevoi, P.I. Anadyrskii krai /Anadyr' Kray/. Trudy of the Geological Commission, 1915.

Sozawa (135), and S.V. Obruchev (136) have determined. Glacial

135. Sozawa, V. "Das Anadyrgebiet," Zeitschrift der Gesellschaft für Erdkunde /Journal of the Geological Society/, Berlin, 1930.

136. Obruchev, S.V. Drevnie oledenenile i chetvertichnaia istorlia Chukotskogo okruga /Old Glaciations and Quarternary History of the Chukchi Okrug/. Isvestiia of the Academy of Science, 1939.

traces are also very rare in the western hinterland between the upper course of the Anadyr' and the Penzhina. Here they appear only in places in the mountain ridges and then only from a height of 1,000 meters. Also the transition area from the Anadyr' Lowland to Penzhina

133 Bay has experienced no glaciation. However the mountain ranges north of Penzhina Bay (Kamennyy and Ichigemskiy Ranges) have housed glaciers, as is indicated by the glacial deposits on the Oklan, a right tributary of the /47/ Penzhina. Individual glaciers have even pushed as far as the Penzhina itself and have borne ahead shifting rocks as far as the neighborhood of the mouth of the Penzhina.

The Anadyr' Lowland was separated from the basin of the Kolyma in the Ice Age, undoubtedly by heavy mountain glaciations, just as the basin of the Kolyma was isolated from the Yana and the Indigirka. In this connection the Anadyr' Lowland played a special role as a place of refuge for the Arctic plant world. Here the plant world could preserve itself in order to re-occupy the land as it became free after the disappearance of the ice. Tolmachev (217, 218) and the Swede Hultén

217. Tolmachev, A.I. O proiskhozhdenii tundrogo landshafta /On the Origin of the Tundra Landscape/. Priroda, 1927.

218. Tolmachev, A.I. Flora tsentral'noi chasti Vostochnogo Taimyra /Flora of the Central Parts of the Eastern Part of the Taimyr Peninsula/. Trudy of the Polar Commission, No. 8, 1932.

(81) have devoted detailed investigations to these questions. Hultén

81. Hultén, E. Outline of the History of the Arctic and Boreal Biota during the Quarternary Period. Stockholm, 1937.

has determined that similar conditions to those in the Anadyr' Lowland must have prevailed on the side of Alaska lying opposite this area. On the basis of the similarity of the plants and the type of their diffusion around and on both sides of the Bering Sea, he comes to the conclusion that a land connection between the two continents must have existed during the Ice Age. Now Antevs and Daly (48) have reckoned the

48. Daly, R.A. "Pleistocene Changes of Level," American Journal of Science, Series 5, Vol. 10, 1925.

the eustatic depression of the surface of the water for the maximum glaciation at 90-100 meters. According to the present depth relationships in the area of the Bering Strait, a lowering of the sea level by

50 meters would have caused the formation of a land bridge 300 kilometers wide, and a lowering by 100 meters would have caused the formation of one 1,200 kilometers wide. Hultén asserts on the basis of his plant-geographic investigations that a land bridge at least 1,200 kilometers wide must have existed.

With the existence of such a wide land bridge the climatic conditions in "Beringia," as Hultén names this combined land connection, must have been essentially different from what they are today. The southern coast of Beringia was washed by the warm water of the Pacific. The moderating influence of this pressed toward the north and made itself felt at least in the lower regions in the south of the Chukchi and Alaska Peninsulas. Only thus can an explanation be found for the fact that in the lowlands of the Anadyr' and Penzhina, surrounded by glaciated mountains, relics of a Tertiary flora have remained even up to the present, and there are even wood types, such as the Chosenia macropolis and Betula cajandri.

Since in the formation and preservation of the land connection between the two continents isostatic forces could have had their effects then and long afterward, the possibility cannot be rejected that the land bridge could also have existed for a certain time in the Post-glacial period. The marine Quarternary at the Bering Strait is indicated as a deposit of an inner basin. In the Anadyr' basin the marine transgression was a very late one; it consists exclusively of recent forms of superior preservation and is obviously very young. These determinations point to a late appearance of the sea. /48/ With the recognition of a continued existence of the land bridge in a Post-glacial time an acceptable solution would be found for the question of the immigration of people from Asia to America, even though exact proof must be left for the future.

On Kamchatka the high volcano basin-shaped gorges (Klyuchevskaya Sopka 4,775 meters, Sopka Tolbachin 3,682 meters, Koryatskaya Sopka 3,457 meters, and others) are even today covered by glaciers, which extend down to a height of 1,200 meters. Numerous indications of an old glaciation are known especially on the southeastern coast. In Avacha Bay near the city of Petropavlovsk a developed trough valley formed by a more than 50 kilometer long glacier has been determined, which almost reaches the sea coast. At the foot of the Kamen' Volcano lie moraines at a height of 200-250 meters above sea level (103).

103. Konradi, S.A. and Kel', N.G. Geologicheskii otdel

133 Kamchatskoy ekspeditsii 1908-1911 /Geological Division of the 1908-1911 Kamchatka Expedition/. Isvestiia of the Geographical Society, 1925.

In the view of various researchers this is a foreland glaciation, which in places pressed forward as far as the coast (101). In contrast to this,

> 101. Komarov, V.L. Putishestviie po Kamchatke /Travels in Kamchatka/. Reports of the Kamchatka Expedition, St. Petersburg, 1912.

the glaciation on the west coast was not so extensive or so thick. The glacier pressed only a little beyond the foot of the mountains into the flat coastal plain. While on the east side, as has already been mentioned, the glacier almost reached the coastline, on the west coast it came only to a point 70-80 kilometers from the coastline at the same latitude as Petropavlovsk. (101) Further to the north, in the river area of the

> 101. Komarov, V.L. Putishestviie po Kamchatka /Travels in Kamchatka/. Reports of the Kamchatka Expedition, St. Petersburg, 1912.

Belaya, old moraines lie at a height of 630-687 meters above sea level, all of this being a sign that the glaciation in the west was slighter than that in the east. The glaciation of Kamchatka proceeded both from the eastern and from the western mountains. In the south, where the two mountain chains meet, the ice masses, too, joined together. On the other hand, the Kamchatka Valley itself was not glaciated, even though it was surrounded on three sides by glaciated mountains. In the interior of the long valley, which is only up to 80 kilometers wide, there are only river and lake deposits, and not until the rims do fluvio-glacial formations and then also moraines appear (113). Thus the

> 113. Kushev, S.L. Geomorfologicheskii ocherk severnoi chasti tsentral'noi. Kamchatki depressii i doliny srednogo techeniya reki Kamchatki /Geomorphological Sketch of the Northern Part of the Kamchatka Depression of the Valleys on the Middle Course of the Kamchatka River/. Doklady of the Academy of Science, Moscow, 1938.

glaciation of Kamchatka mirrors approximately the present rainfall. 133
During the Ice Age the snow border lay at approximately 700 meters; today it lies at a height of 1,500-1,800 meters.

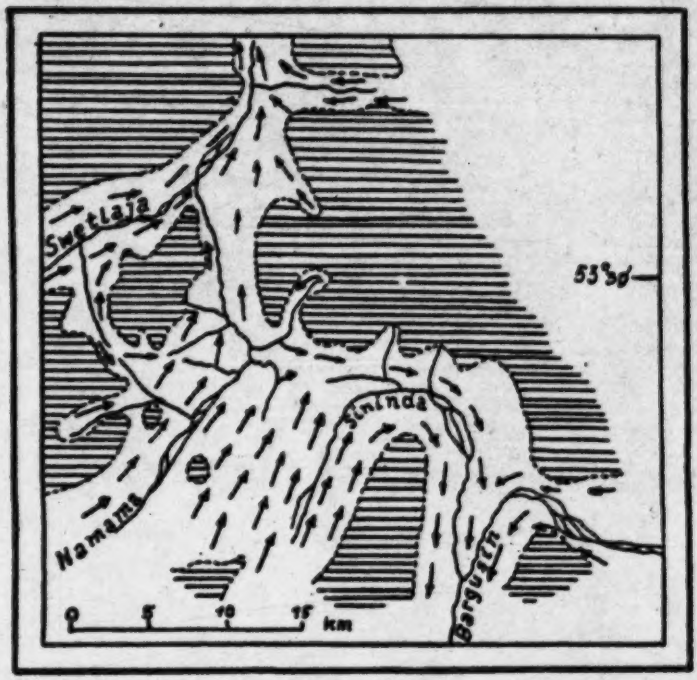
The area round Lake Baykal should be mentioned as the final area of extensive glaciation. In the first place this is a mountainous area northeast of Lake Baykal, and this mountainous area begins at the northeastern end of Lake Baykal and stretches beyond the Vitim to the Olekma (North Baykal mountain country, Patom Plateau). According to the writings of numerous researchers (Krapotkin, V. Obruchev, A. Gerasimov and others), the fact of an extensive glaciation of this area is beyond doubt, but opinions differ on the type of glaciation, and this is being clarified only gradually. V. Obruchev first asserted that it was an inland glaciation, and from here he came to the view that there was a great glaciation of all of north Siberia, but this was later proved erroneous. As proof of the inland ice character northeast of /49//Mapof Glaciation in Transbaykal (according to Eskola (58)/.

58. Eskola, P. "Beobachtungen über die Glazialbildungen in der Gegend der Wasserscheide zwischen dem Bargusin und der ob. Angara in Transbaikalien," Comtes rendu de la Societé Geologique de Finlande. /Proceedings of the Geological Society of Finland/ No. 1, 1929.

The sketch shows the extent of the glacier in the watershed region between the Barguzin and the Namama, which flows via the Svetlaya into the Upper Angara. The white areas represent the glacier with its various directions of flow. The directions of flow follows the river valleys, while the high plains lying in between remained free from all glaciation. The type of glaciation depicted in the sketch can be considered as typical of Transbaykal.)/50/ Lake Baykal, Obruchev points principally to the following marks: rounded mountain slopes, round knolls, gorges, gorge lakes, trough valleys, worked out terraces, Oser, etc., and also erratic blocks, which appear on the watersheds. Meister (123) /sic/ later pointed out that the "erratic blocks" on the watershed

123. Lopatin, I. A. Gol'dy /The Goldi/. Zapiski of the Society for Exploring the Amur Area. Vladivostok, 1922. /The author probably meant to refer to footnote 128: Meister, A. K. Vostochnaia okraina Lenskogo zoloton osnogo raiona /The Eastern Border Area of the Lena Gold Fields/. Geological

Map of Glaciation in Transbaykal (according to Eskola (58). 133



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Research in the Gold Fields of Siberia, No. 10, 1914./

133 are of local origin and consist of the same rock as that lying underneath, which otherwise is covered over with deposits. The rounded off slopes in these regions of permafrost could also have been formed by ground flows. Meister declared verbatim: "On the Vaga I saw loamy masses of great thickness which in their movement tore along with them century old trees as though a hurricane had passed through there; also embedded pieces of neighboring rocks from the earth were carried along--in a word: it was a recent loam glacier." (128) On the

128. Meister, A.K. Vostochnaia okraina Lenskogo zoloton osnogo raiona /The Eastern Border Area of the Lena Gold Fields/. Geological Research in the Gold Fields of Siberia, No.10, 1914./, pp. 22-23.

basis of this and other determinations, V. Obruchev changed his opinion and accepted the reduction of the glaciation from an inland ice covering in the north (Vitim-Olekma mountain country) to an Alpine type in the south. However, the results of further research have caused it to be recognized that we are dealing here generally with one glaciation of the Alpine type. Eskola (58) has conducted investigations east of Lake

58. Eskola, P. "Beobachtungen über die Glazialbildungen in der Gegend der Wasserscheide zwischen dem Barguzin und der oberen Angara in Transbaikalien" /Observations on the formation of glaciers in the area of the watershed between the Barguzin and the upper Angara in Transbaykal/ Comtes rendu de la Societe' Geologique de Finlande. / Proceedings of the Geological Society of Finland/, No. 1, 1929.

Baykal between the Vitim, Upper Angara and the Barguzin, and these investigations have clearly indicated the Alpine character for this region. The valleys of most of the rivers (Barguzin, Svetlaya, Sininda, Namama, Oktokitan, etc.) were filled with ice masses of great valley glaciers, which had a thickness of 400-500 meters. The higher elevations projected above the ice level of the valleys, but had themselves small glaciers, which descended to the valley glaciers. The Barguzin Mountain Range, whose surprising similarity to the Alps is brought out by all researchers, can be regarded as the best example for this region.

Remarkably enough the valley of the Upper Angara, which 133
stretches far to the east between glaciated mountain ranges (Upper Angara Range in the north, the Barguzin Range in the south) was not exposed to glaciation.

Also south of Lake Baykal the mountain ranges had glaciers, which in the valley of the Slyudyanka and Pokhabikha reached the level of Lake Baykal in the form of valley glaciers. Here more than 25 glaciers have been counted in an area of 60 square kilometers, but these were all only insignificant ones which at most had a length of 10 kilometers. The landscape is rich in gorges, which lie at very different heights ranging from 50 meters to 600 meters above the present level of Lake Baykal (454 meters above sea level). Thus the Ice Age snow boundary must have been very low here in comparison with the neighboring Sayan (around 2,000 meters) and the northeastern Baykal area (at least 1,200 meters). An explanation for this striking appearance can be seen in the fact that Lake Baykal itself even in the Ice Age /51/ exerted an influence on the climate of the surrounding areas, an influence which was especially noticeable here in the southern part where even today the rainfall is high. The slope of the Khamar-Daban turned toward Lake Baykal is the rainiest area in Transbaykal. But in addition there is the fact that southern Lake Baykal is an area of recent depression, which continues even today, and accordingly the traces of the glaciers can also be regarded as subsequently dislocated.

There are also local glaciations in Transbaykal apart from the above-described glaciated areas. The best known are the glaciations of the 2,500 meter high Sokhondo and neighboring mountains, where gorges, trough valleys, and even moraines appear on the slopes.

Traces of an old glaciation have also been found in the Dzhugdzhur, in the Stanovoy, which extends up to 2,482 meters in height, in the Tukuringra Range in the heights on both sides of the Zeya break-through, and in the Yam-Alin (2,215 meters). However, the signs are but slight throughout and appear only in a limited area, and accordingly here there were at most individual dotted glacier formations.

The Permafrost and Its Significance

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The largest part of the Soviet Russian Far Eastern region lies 134
in the sphere of the permafrost or the Eternally Frozen Earth, as this

[32 34] appearance of nature is also named, and this therefore deserves special treatment within this work. The Soviet government has specially undertaken research on this phenomenon, [64] which is typical of the largest part of Siberia and also for parts of the European north; the government has erected eight permanent research stations for this purpose, of which four are in the regions being discussed: namely, in Petrovsk (Transbaykal), Skovorodino on the railroad line north of the northern arc of the Amur, Bomnak in the trough depression of the upper Zeya, and in Anadyr'. In addition to B. Shostakovich, M. Sumgin especially has done great service in research on permafrost. Orientation on the extent of the permafrost is given in the attached sketch map, which is based on Russian sources. This map shows that the only areas completely free from frozen ground are the areas on both sides of and between the Zeya and Bureya rivers and perhaps the area east of the Bureya Mountain Range, including the entire Ussuri country and the Maritime Krai. Frozen earth is not found in the larger southern part of Kamchatka and on Sakhalin Island either.

In the areas which are dominated by permafrost, the ground thaws in the summertime only superficially in a layer whose thickness varies considerably with the locale, and under this layer lies the permafrost, i.e. a constantly frozen layer of earth, which likewise is of varying thickness. The upper layer which thaws in the summer, is called "active" (deiatel'nyi slot) /52/ by the Russians, and only it is the bearer of organic life. In the majority of cases the pieces of earth in the permafrost area are so strongly cemented together by ice that the ground gives way only under the blows of a crowbar. However, this sign of linking together by ice must not be used as the sole means of determining whether the ground should be classed as eternally frozen; rather this classification depends above all on the temperature. Thick rock can also bear permafrost, although no external changes can be discovered on the rock.

In the winter the ground freezes from the surface down. In many cases, then, the winter freeze and the permafrost grow together into one unit, but in most cases there remains between the two an unfrozen horizon, whose water under special morphological conditions, especially at the foot of slopes, breaks through the upper frozen layer or is pressed out by the pressure from above of the frozen earth. This leads to formations of ice on top of the ice (Naled'), which, since the water flowing out freezes again and again, can often extend over a large area and can attain a thickness of more than one, indeed of two meters.

[64 i.e. permafrost -- Analyst]

Or, under specific conditions, ice kernels form within the earth. 132 134
These ice kernels grow and press the upper layers of the earth into a hill, which then in the warm season collapses again. As a result a lake is frequently formed in place of the hill because of break-throughs in the earth. Generally the existence of frozen earth permits the absorption of the surface water only to a certain depth, and accordingly the rainfall for the most part must flow off on the surface. The irregular water flow of the rivers in these regions often goes back to this phenomenon. Thus the contrast between the high and low water lines is very great everywhere. At the confluence of the Shilka and the Agrun, the Amur passes, as its annual mean 1,200 cubic meters of water per second, while the minimum during the year is only 125 cubic meters per second. Heavier rainfall makes itself felt immediately in an often flood-like rise in the water being passed in the rivers. The thawing of the surface layers of the earth, especially in areas with varying morphological formations, offers the best conditions for ground flows. Thus the domain of the permafrost is the classical land for landslides and solifuction.

But, in addition to these numerous and very interesting natural 132
phenomena, the effects of the permafrost on man and his economy 134
must be mentioned; these effects are apparent everywhere in the per- 499
mafrost domain and often bring difficulties. Through freezing the volume of the water expands, presses the ground upward in places, and causes destruction of transportation installations. Deep tears occur in the railroad line, and through these tears mud and water from deeper layers often push out, /53//Mapof the permafrost area:/ /54/ freezes on the surface, bursts the splits open farther, and forms high bucklings, and thus gradually the roads become unusable. With the setting in of the thawing weather, everything sinks together in mud and pulp.

In addition the roads and especially the bridges are by preference the starting points for ice building on ice. As an example [491]
Sumgin points out the road built from Bol'shoy Never on the Amur railroad, via Tyndinskiy and the Aldan gold region, to Yakutsk on the Lena. This road should be usable for trucks the entire year. Out of the entire length of 1,300 kilometer, on the southern part alone between Bol'shoy Never and Tommot, which is 728 kilometers long, 117 formations of ice on top of ice were counted in the winter of 1927-28. These formations caused serious destruction, especially on bridges which were as a result partially raised up, made crooked, and gradually

Map of the Permafrost Area: /53/

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Areas with Ground Temperatures in Celcius Degrees at a Depth of 10-15 Meters:

Under - 5°
Closed-off area of frozen ground.

Predominantly - 5° to - 1.5°
Frozen earth less thick
Islands here and there where the ground is not frozen.

(Captions continued on following page)

/53/

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Predominantly over - 1.5°

In the north predominantly frozen earth with islands where the ground is not frozen. In the south for the most part the ground is not frozen butthere are islands where it is.

Predominantly over - 1.5°

Only in places are there islands where the ground is frozen

132 made unusable. In the spring after the melting away of the ice, the
134 bridges completely collapse. The population claims that earlier for-
499 mations of ice on ice occurred only seldom in these same regions. Thus it must be assumed, and Sumgin also points this out, that the formations of ice on ice are encouraged by the building of roads. Through trials and experience, various new methods of road-building have been found which hinder this damage, but it can not be entirely eliminated. In general terms it can be said that in the areas of permafrost road-building is very difficult, requires a longer time, and is done at much greater cost than in other regions.

Of a similar type are the difficulties encountered in building and maintaining railroad lines. In addition to the pulsation of the earth, landslides and solifluction are regarded as being especially dangerous here. In building the Amur railroad line all these hindrances and difficulties became known in detail. Often, without regard to the cost, the lines had to be laid entirely differently from what had originally been planned. Especial difficulty was encountered in providing water for the railroad in the winter in the areas of permafrost. Water had to be drilled from layers which lay under the permafrost. In many places water had to be procured in kilometer-long, heated conduits. A comparison of costs shows best how great the difficulties were in building the Amur railroad line in the areas of permafrost and to what extent these difficulties increased the costs here versus those in other regions. The building of the great Siberian Railroad (as far as Sretensk in Transbaykal), including all preparatory work, required as a mean an expenditure of 67,737 rubles per verst, while the western part of the Amur line from Kuenga to Kerak, whose total lenght is 597 verst, required for pure building costs an average expenditure of 158,000 rubles per verst. Also the maintenance of the railroads requires larger outlays, since the railroad lines, and especially the bridges, require constant and very careful inspection, in order to be able to take /55/ protective measures in time at the slightest sign of any destruction whatsoever. Thus in the course of the year position changes were determined on 50 out of a total of 80 bridges on the Amur railroad, and these position changes had to be eliminated by protection and rebuilding measures.

132 The permafrost also plays a noteworthy role in the method
134 of construction. Apart from the direct effects of the cold, the buildings
342 in the sphere of the permafrost are subjected to the danger of gradual decay. The reason for this lies principally in the fact that the ground

under a building freezes little if at all during the winter. V.G. Petrov (154) writes on this subject: "The house stands as though on

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154. Petrov, V.G. Naledi na Amursko-Iakutskoi magistrali /Formations Breaking Through the Ice (Aufeisbildungen) in the Amur-Yakutsk Magistracy/. Academy of Science, Moscow, 1930.

the edge of a frozen crust. If now this crust begins to thaw, its edge spreads the house lengthwise and widthwise, and the damage begins." This leads to general deformation of the house and to the gradually sinking in of the house into the ground. Sumgin points out that this danger is caused above all by so-called "swimming" masses, which form under the house and which can be traced back to the changes in the thermic conditions in the ground. With larger structures of several stories, they can often be caused by the pressure of the structure alone. In individual cases it happens that the water in the earth, which lies between the winter freeze and the permafrost and which is under a certain pressure, finds a way into the open underneath the house. It penetrates into the cellar and even into the living quarters and forces the occupants to leave the house. Not uncommonly the penetration of the water occurs so quickly that the occupants do not succeed in rescuing all their possessions from the rooms. The regions of permafrost require construction methods which counteract these dangers. As a rule an attempt is made to lay the foundation so deeply that it has a firm position in the permafrost; to do this, mostly wood or reinforced concrete palings are inserted into prepared holes deep in the permafrost. In the construction of new cities and plants the question of a sufficient and secure foundation plays an important role, and it also is an important factor in the cost estimate. In building the city of Magadan, where apartment buildings with up to six stories were erected, thick layers of earth had to be removed in order to install the foundations so that the foundations became frozen fast into the ground. The sides of the foundations were protected by insulating layers. Often the foundations were entirely embedded in insulating layers here. In order to eliminate all these difficulties, M.M. Kryllov, whom Sumgin cites, had drawn up a plan to be carried out with the help of modern cold technology; this plan envisaged keeping the ground within the construction installations always under a certain temperature with the goal either of preserving the permafrost at a certain depth or even of raising it. However, this proposal has been tried out but little in practice.

000 even of raising it. However, this proposal has been tried out but little in practice.

132 134 312 /56/ In addition to the general water supply, the supplying of drinking water in the permafrost regions in winter causes many difficulties, especially for larger settlements. Since many rivers freeze to the ground, the water must often be gotten from far away. In many places artificially caused formations of ice on top of ice are used to help in smaller settlements. But it would lead us too far astray to go into detail here on the various and often also unique methods of procuring water.

132 134 316 The permafrost is also of great importance in connection with mining and with the extractions of natural resources generally. In pit mining the permafrost sets great hardness against the invasion of man. Even diamond drills fail sometimes, and, if the motor stops for even a moment, the drill freezes fast in the water of the hole being drilled. The pits and galleries are mostly firm and hold even without supporting beams, the danger of chokedamp is slight, and also ground water seldom appears, and only occasionally do water break-ins occur. In open mining the permafrost must be dynamited, but then the blocks knocked loose turn into bulky pulp. Gold extraction has to overcome special difficulties in the working of gold wash-works which mostly are in the permafrost and lie under a thick, unfrozen layer of earth which can be removed rather easily. In the most important gold regions the most modern machinery is employed to process the gold-bearing sand in one vein with everything from dredge to dressing-floor, but all these technically complete establishments conduct a difficult battle with the permafrost, whose hardness gives extraordinary resistance. The natural thawing under the air temperature of the summer proceeds so slowly that man must help it along. The primitive thawing with the aid of wood and coal fires has disappeared, and jets of water also do not suffice here. At present, steam is employed everywhere, and new announcements report that the use of electricity is being considered for the future.

132 134 The role played by permafrost in connection with vegetation is many sided, but the mutual relationships are still too little clarified. For the agrarian economy the permafrost is a more favorable factor as a source of ground dampness, especially in the interior which suffers from a shortage of summer rainfall. Here the dampness of the ground is a natural compensation. It is due to the exploitation of these favorable conditions that Soviet Russia has succeeded in spreading agriculture,

if not in large areas, yet sporadically toward the Polar Circle, where cultivated areas are to be found to a greater or lesser extent near all settlements as far as north of Magadan. These cultivated areas serve as a source of local supply. 132 134

/57/ The Climatic Conditions

The climatic conditions are determined by the seasonally changing contrast of the barischen /baric?/ relationship between continent and ocean. In winter dry air masses flow toward the ocean; the summer sea wind on the other hand brings dampness into the land. Accordingly the influence of the ocean is limited to the true Far Eastern regions whose waters empty into the Pacific. These regions accordingly form a climatic unit. As a consequence of the regular seasonal climate changes, these regions belong to the East Asiatic monsoon area, whose typical character is clearly stamped everywhere and has its effect as far north as beyond 60° latitude. Only Transbaykal lies outside of this unit. Its inland location allows the continental traits to appear much more sharply. But the summer monsoon also makes itself felt here as far as the Yablonovyy Mountain Range. 132

The following climate areas in addition to Transbaykal can be differentiated according to their general character: the Amur-Ussuri area, the southern coastal region, in which Sakhalin is also included, the northern coastal region including Kamchatka Peninsula, and the Anadyr' region. The important distinguishing features are included in the following chart:

Area	Annual Rainfall in millimeters	Number of months with a mean over		Annual Temperature Variation
		5°	10°	
Transbaykal	200 - 340	5	3	42° - 52°
Amur-Ussuri Region	525 - 620	5	5	42° - 48°
Southern Coast	540 - 760	6	4	30° - 34°
Sakhalin	500 - 750	5	4	28° - 35°
Northern Coast	300 - 900	4	2	33° - 37°
Kamchatka	500 -1,000	4	2	23° - 32°
Anadyr'	190 - 200	3	3	40° - 45°

Transbaykal has very slight rainfall and great temperature

132 variations during the year. The Amur-Ussuri region has almost double the rainfall and equally great temperature variations. The entire coastal area in general has still greater rainfall and a much smaller temperature range. The Anadyr' region again shows slight rainfall and high annual temperature variations.

The Amur-Ussuri region exceeds all other regions in the number of months with a mean temperature over 10°. In the coastal area the number of warm months decreases toward the north. The Anadyr' region again exceeds the northern coastal area and Kamchatka in the number of months with a temperature above 10°.

Transbaykal is a transition area in terms of its climate. It shows the signs both of the Siberian forest climate and also of that of the Mongolian steppes. In addition, a local factor in the climate /58/ with noteworthy influence is Lake Baykal. Only rarely does the annual rainfall exceed 300 millimeters. In this the driest areas do not only lie near the Mongolian border, where Novo-Selenginsk has an annual rainfall of only 162 millimeters, but remarkably enough the dry areas extend even to Lake Baykal. The Buryat who are settled on Ol'khon Island (169 millimeters) and in the Barguzin Valley are forced to use artificial irrigation. An exception in the general poverty of rain is the northern slope of the Khamar-Daban, which receives 515 millimeters annually at Mysovaya. Likewise the thicker snow covering and the heavier forestation of the northern slopes indicate that Transbaykal is preferentially supplied with dampness from the northwest. An important characteristic, here Mongolian, is the great contrast in the rainfall at different times of the year. In the summer half of the year 75 percent and more of the annual total falls, while the winter months (December, January, February) are considered very sparse in rainfall with 3-10 percent of the total. Winter brings very severe cold. At −31.4° Nerchinsk has the lowest mean temperature for January. As a result of the slight, often completely non-existent snow covering, the frost penetrates very deeply into the ground. Accordingly the land lies in the sphere of the permafrost, which with a depth of 57 meters at Mogzon station, west of Chita, reaches its deepest depth determined thus far in Transbaykal. Because snow is lacking, road traffic takes place in winter too by means of wagons or on sleds on the frozen rivers. Because of the dryness the streets are just as dusty as in the summer. An advantage of the Transbaykal winter--an East Siberian characteristic--is its imposing quietness, its pure air, and its constantly blue,

bright sunny skies. The air is so dry that the snow often evaporates directly without going through the liquid stage. On small brooks, which in many cases freeze to the ground, the ice often disappears leaving only the river bed. Spring is short. Since the time for the melting of the snow is almost completely lacking, the ground gets warm very quickly. For the same reason there is no high water in spring. The amount of water in the rivers depends on the rainfall and is largest during the summer. Summer brings very high temperatures. The unreduced July mean reaches 18-20°. Gruelling heat weighs upon the entire land, especially in the valley plains, and it is an economically important advantage of the Transbaykal climate that the summer months bring at the same time the most rainfall and the heaviest clouds of the entire year. In the course of the year, however, bright sunny days predominate by far. Transbaykal has a mean of 100-140 completely clear days a year; in this respect it approaches the desert type of climate.

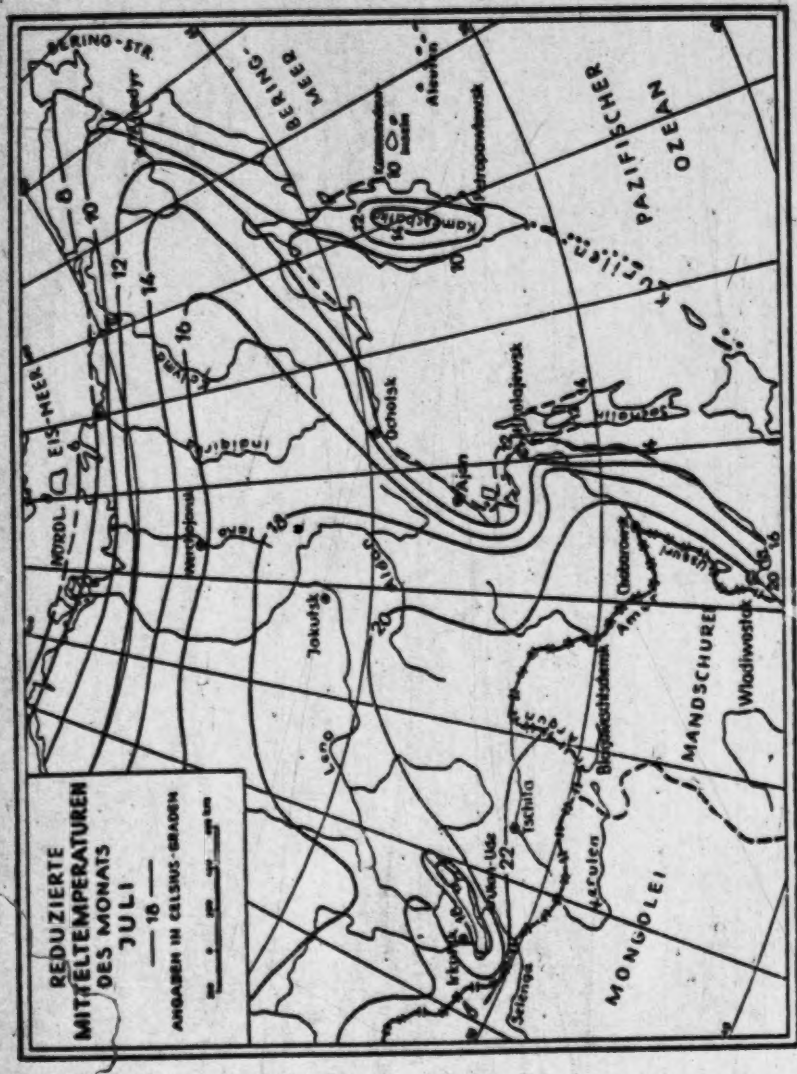
A phenomenon characteristic for the climate of Transbaykal, a phenomenon to which A. A. Borisov (39) in particular has called

39. Borisov, A. A. Klimaty SSSR /The Climate of the USSR/. Moscow, 1948.

attention, is the temperature inversion. /59//Map Showing the Reduced Mean Temperatures for the Month of July:/ /60/ If during the winter the Asiatic anti-cyclone forms over the continent with Transbaykal lying in part in the center of it, then the cold and heavy air masses collect in the valley basins, where they remain with extraordinary persistence. This explains the fact that the lower lying places as a rule have lower winter temperatures than the higher lying ones. Perevalnaya at 1,024 meters, for example, has a January temperature of -23.3°, while Chita at a height of 683 meters has a January mean of -27.4°, and Nerchinsk at 484 meters even has a January mean of -31.4°.

The influence of Lake Baykal is limited to its immediate environs, but this produces remarkable contrasts. In Listvenichnoye, at the point where the Angara flows from the lake, December and January are 10° warmer than in Ulan-Ude which is 90 kilometers from the banks of the lake, and June and July are 7° cooler. The annual range in temperature is 29.6° in Listvenichnoye versus 45.9° in

Map Showing the Reduced Mean Temperatures For the Month of July: 132



Figures are given in degrees centigrade.

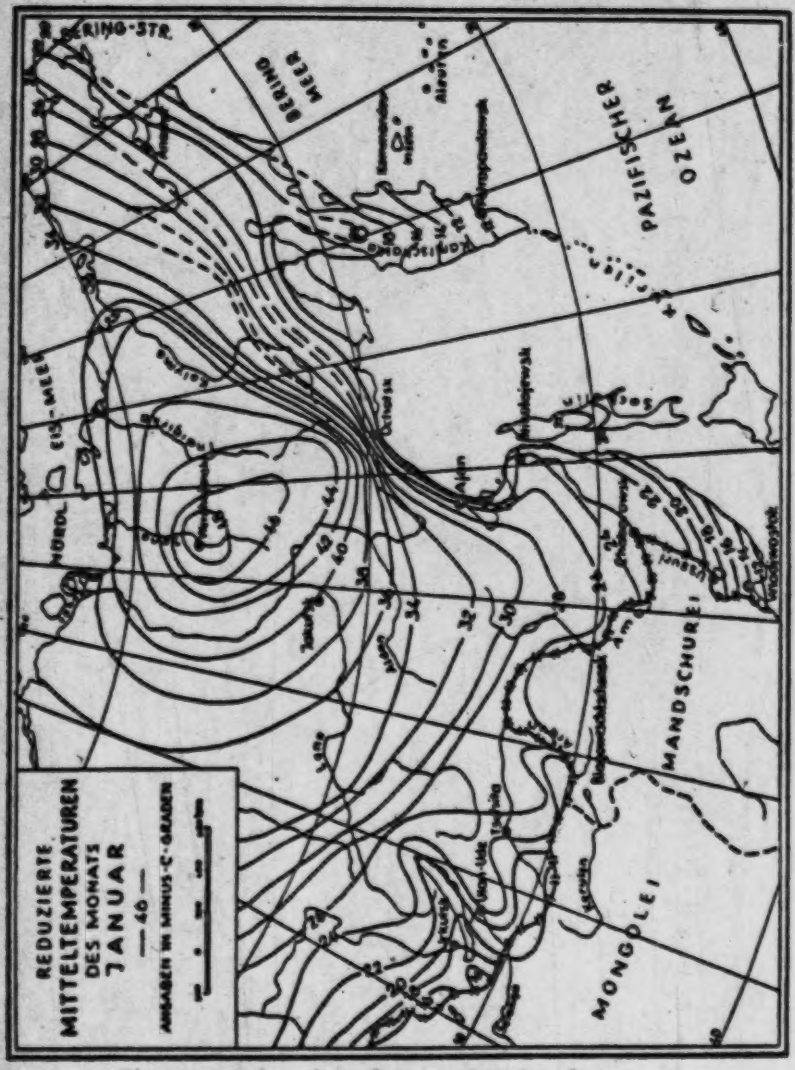
[32] Ulan-Ude. As a consequence of the slow change in temperature of the water in Lake Baykal, the extreme months are postponed--all remarkable signs, which are reminiscent of an oceanic climate.

Within Transbaykal the Yablonovyy Range forms a climatic dividing line, which is expressed less in the meteorological data than in the plant covering which reflects the entire climatic conditions far better than the best instruments can record them. East of the [33] Yablonovyy Ridge deciduous trees appear in larger numbers. This shows, therefore, that the influence of the East Asiatic monsoon extends as far as here, and this is also confirmed by observation of the frequency of the change in wind directions. While in Ulan-Ude northwest and north winds rule absolutely the entire year, the frequency of these wind directions decreases significantly in the summer in Nerchinsk, where northeast and east winds appear above all.

The remaining regions of the Far East, as has already been said, stand in their climatic conditions in almost complete dependence on the seasonal change in air streams. The winter land winds bring down to the coast a high degree of coldness connected with dryness. But the summer sea winds, too, are disproportionately cool. In this connection the eastern border seas play a very disadvantageous role for the entire Far Eastern coast. The Sea of Okhotsk should be mentioned here in first place. It is a mighty cold water basin and is with justice designated the "ice cellar of east Siberia." The Kuril barrier hinders an exchange of water with the open ocean, and accordingly the water in the Sea of Okhotsk remains disproportionately cool (10°) even in summer under the continuing influence of the winter cooling-off by the surrounding land masses. In addition there is a cold ocean stream which stretches from north to south along the coast and even in summer carries great ice floes toward the south; /61//Map of the Reduced Mean Temperatures for the Month of January:/ /62/ where piled-up ice can be encountered even in July and August in the region of the Shantar Islands. In the Bering Sea and in the Sea of Japan, too, cold ocean streams move along the coast toward the south and lower the summer air temperatures not only through the water's own coolness but also through the formation of fog, which is a typical phenomenon for wide areas on the Far Eastern coast. Thus the general disadvantage of the east side of northern continents is especially marked here in the Soviet Russian Far East. Vladivostok (43° 07'N latitude) has the same July temperature as Moscow (55° 56'N latitude). Vladivostok lies at the same latitude as Nice but has a mean temperature for January of

Map of the Reduced Mean Temperatures for the Month of January

132



Figures are in minus degrees Centigrade

-15.1° versus Nice's of 8.0°, and in July Vladivostok's temperature is 18.9° versus 23.2° in Nice. This disadvantage of the Soviet Far Eastern coast is shown especially forcefully if it is compared with the climatic conditions on the western coast of North America: 132

Mean Temperatures of the Soviet Far Eastern Coast and of the North American West Coast in Degrees Centigrade

Place	Latitude	Annual Mean	Coldest Month	Warmest Month	Annual Variation
Ayan	56°03'	- 3.9°	- 20.4°	12.4°	32.8°
Sitka	57°01'	+ 5.3°	- 1.0°	12.6°	13.6°
Nikolayevsk	53°02'	- 2.3°	- 23.4°	16.8°	40.2°
Tongass	54°08'	+ 8.1°	+ 1.1°	15.1°	14.0°
Vladivostok	43°02'	+ 4.3°	- 15.1°	20.8°	35.9°
Umqua *	43°07'	+ 11.4°	+ 6.8°	15.5°	18.7°

*/sic: probably is the Umpqua River in Oregon, which lies at this latitude/

The unfriendly influence of the Sea of Okhotsk, however, is limited more to the coastline since the mountain chains running parallel to the coast prevent a further penetration into the interior of the land, and accordingly the warm summer sun has more effect. As a result of this the division into climate areas on the coast is in contrast to the other climate areas.

The Amur-Ussuri Climate Province lies more landwards and comprises the region of the middle and lower Amur and the valley of the Ussuri. The Sikhote-Alin' and the Bureya Mountain Ranges protect these regions in the summer from the foggy and damp-cool air masses of the sea. Instead warm and damp winds coming from the southeast and south move over the broad plains of Manchuria and beyond the Amur to the north and effect a warm and damp summer in contrast to the continental harsh and dry winter.

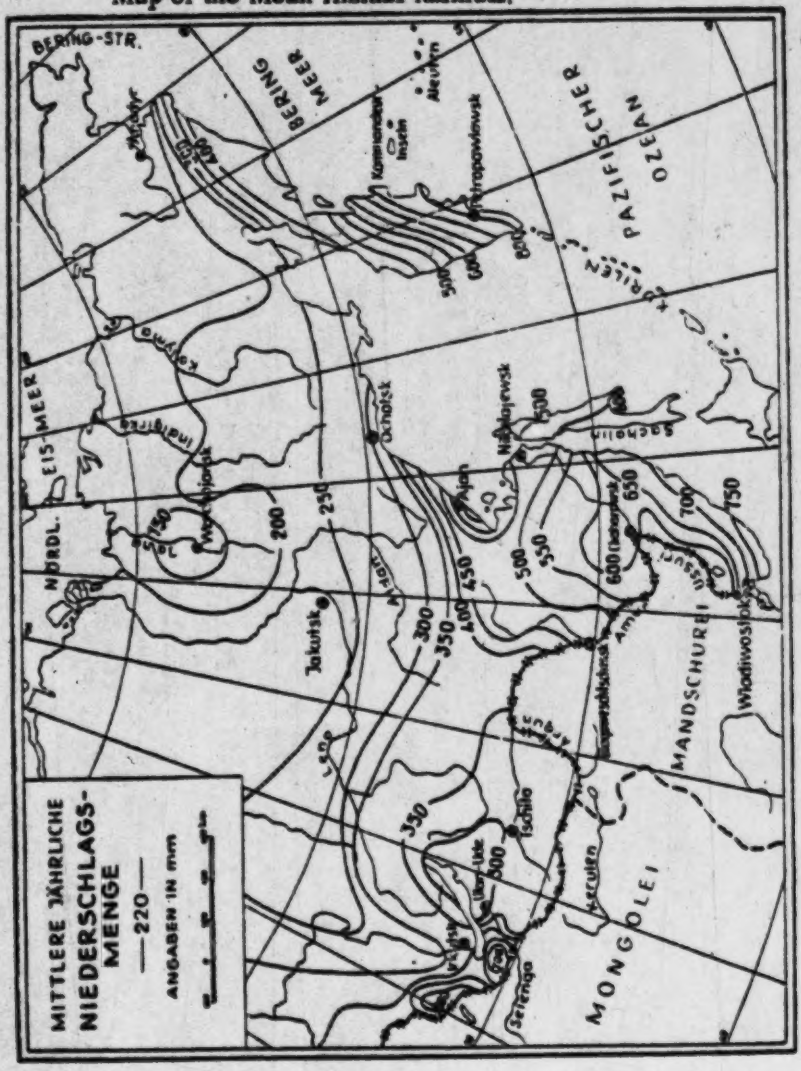
The favorable conditions of this climate region[1] are expressed strikingly in the vegetation, which is characterized by the appearance of deciduous trees such as oaks, elms, lindens, and other, trees which are lacking in all of Siberia and also in Transbaykal and on the coastal edge. [137]

The annual rainfall exceeds 500 millimeters in the entire area but understandably decreases from the coast toward the interior /63//Map of Mean Annual Rainfall:/ /64/ Thus Bikin

[1][i.e. the Amur-Ussuri region -- Analyst]

Map of the Mean Annual Rainfall:

132



Figures in millimeters.

132 in the middle Ussuri country receives 616 millimeters, Khabarovsk at the mouth of the Ussuri on the Amur receives 564 millimeters, Blagoveshchensk lying still farther to the northwest receives 525 millimeters. Of greatest importance is the fact that everywhere here the rainfall is concentrated predominantly in the summer. Almost throughout the entire country 85-95 percent of the annual total falls from April to November, and of this 50-60 percent falls in the three high summer months, June, July, and August, which therefore have much more rainfall here than by far the largest part of Transbaykal receives in the entire year. Blagoveshchensk receives 25 percent in both July and August; in short it receives half the annual total in two months. The annual course of the rainfall is shown by the following observations which represent the mean of six stations in the area. (79)

79. Hann, Handbuch der Klimatologie /Handbook of Climatology/ (Stuttgart, 1911), Vol. III, p. 292.

Rainfall in Percent of the Annual Total

Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1	1	1	4	10	15	23	24	13	4	2	2

The same contrast as in the rainfall is shown also in the temperature during the course of the year; and in this the harshness of the winter is especially prominent. The summers, with a mean temperature of 20.2° to 21.2° for July, are warmer than in Transbaykal; the winters, with a mean temperature of -22.2° to -24.2° in January, are almost as cold. Remarkable is the great warming-up by leaps and bounds from April (means 2.4° to 3.7°) to May (mean 10.4° to 11.9°), and this is followed by a no less sharp drop in temperature from September (mean 12.1° to 13.6°) to October (mean 1.4° to 4.7°); accordingly the main vegetation period is only in months with a mean over 10°. The abnormally cold winter in the Amur country is explained by the flowing down of heavy, cold air masses from the higher continent to the coast, and these air masses follow the valley of the Amur and fill up all lowlands. Therefore, the basins of the Zeya and Bureya are distinguished by especially severe winters, and despite its southern position the Amur has the same freezing conditions as the rivers of northern Eurasia. Thus the Amur is closed by ice 197 days a year at Blagoveshchensk and 178 days a year at Nikolayevsk, 38 kilometers above its mouth. Accordingly, the Amur at Nikolayevsk (53°08' N

latitude) is covered with ice as long as the Dvina at Arkhangel'sk (64°33'). As a result of the lack of snow resulting from the slight rainfall in winter, vast regions north of the Amur belong to the sphere of the permafrost. 132

Spring is short. Summer quickly replaces winter. Summer unites great heat with the richest rainfall of the year and fills the land with warm-damp hothouse air. The relative humidity of the air--a characteristic of themonsoon climate--is at its greatest in July with 88 percent and at its lowest in winter /65/ with 68 percent in December. September, too, is relatively dry. Cloudiness in summer is much greater than in winter. Thus the duration of sunshine in December reaches its maximum with 75 percent of the possible, and in Khabarovsk it reaches even 90-95 percent, while it has its minimum in June with 34 percent. As a result of the heavier clouding in summer the daily temperature variations in summer are slighter than in winter. (At Khabarovsk the temperature variation in February is 7.3° and in July is 4.5°). Already in the beginning of June frequent and mostly short rain storms set in, mostly in the train of cyclones which, coming from the south or southwest, reach the Amur and the area of the Lower Ussuri and then move off toward the sea in the direction of the lower course of the Amur. The ends /Ausläufer/ of typhoons can also penetrate into this region. These whirlwinds bring damp air masses far into the land, and mostly cause heavy downpours, which can lead to dangerous floods as, for example, occurred in the Zeya and Ussuri region in July 1928 when a large part of the harvest in these regions was destroyed (63). In 1872 the Amur rose and flooded the city of

63. Friedensburg, F. "Gold," Die Metallischen Rohstoffe /Metallic Raw Materials/, No. 3, second edition, Stuttgart, 1953.

Blagoveshchensk, lying on the flat bank of the river, so badly that a small river steamer could travel down the main street. (132) Borisov

132. Michajlov, N. /Mikhailov, N./ and Pokschischewskij, W. /Pokshishevskii, V./, Reise über die Karte der Sowjetunion, //A Trip across the Map of the Soviet Union/,(Berlin, 1947), p. 445.

reports that in such a case more than 100 millimeters of rain can fall

132 within 24 hours. These conditions, especially the paths of the cyclones, have still not been clarified in detail. The real rain period does not begin until early in July and lasts until the end of August. During this period there is rarely a week without several days of rain.

In addition to the already mentioned downpours, rainfall also occurs in the form of land rains. A very characteristic type has been designated as "subsequent rain" /Nachfolgeregen/ by Arseniev. This occurs when after a storm the day is sunny and still, and then in the evening rain falls again because of the condensation of the rising, very high humidity.

The abundant rainfall of summer causes the rivers to swell, and their high water occasionally spills over the banks, and often interrupts all traffic. In many places the water cannot flow off right away. It remains standing on the level fields. Grass areas turn into swamps. In the low, broad plains on the left side of the Amur, above [312] Khabarovsk, plains which were supposed to have been won for agriculture to supply the rapidly growing city, a large-scale system of drainage canals had to be created, not only in order to drain the ground but also in order to give the rainfall an easier opportunity to drain.

132 The great dampness along with the great heat endangers and decreases
241 the harvest of European types of grain. The grain shoots into grass but the corn yield is slight. The sprouting of the plants suffers from the dryness, while the blooming, ripening, and harvesting fall in the rain period. In this the dampness of the ground /66/Climate Diagram: Ulan Ude; Chita/ also plays a role, for, according to many reports, the yield of the grain fields in the hilly country on the mountain ridges and slopes is higher than the yield of the fields in the valley areas. The softening of the ground by the summer rains makes the use of machinery difficult, and this appeared as a restraining factor in the establishment of the kolkhoz system and the MTS (Machine Tractor Stations). In part steps had to be taken toward the construction of new machines. On the other hand

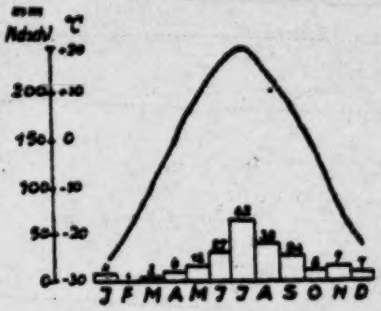
132 the climate fosters the development of vermin and fungus. The corns
137 of grain are not uncommonly attacked by a spore fungus (Fusareum roseum), which makes the bread "pianyi," i.e. drunken, as the Russians say, because when eaten it has an intoxicating effect and causes nausea. Fruit is distinguished by richness in liquid but by a poverty of sugar. The Manchurian-Chinese cultivated plants and the natural native plant world thrive especially. Characteristic for the forests is a rich underwood, but the trees--and this applies especially to the deciduous trees--are very susceptible to disease, often becoming hollow with internal

Climate Diagram

132

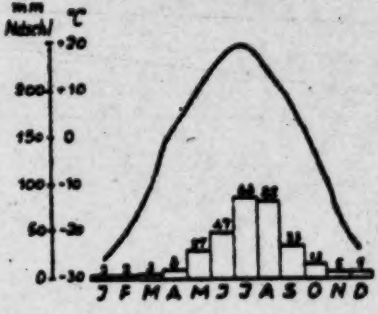
ULAN-UDE

542 m – 202 mm/Jahr



CHITA

683 m – 319 mm/Jahr



132 rot, and they are generally short lived. The usual leather boots are
137 scarcely to be used when going into the summer-damp woods, since they soften up in the damp ground covering and disintegrate.

132 The best time of the year is autumn, lasting through September October. It no longer rains. The sun shines brightly from a blue sky and in the almost complete calm emits an agreeable, bearable warmth. Once the frost comes, it lasts through the entire winter. It is seldom interrupted by a spell of thaw. The great dryness of the air is remarkable, even snow often evaporates.

/67/ /Climate Diagram: Blagoveshchensk; Vladivostok./

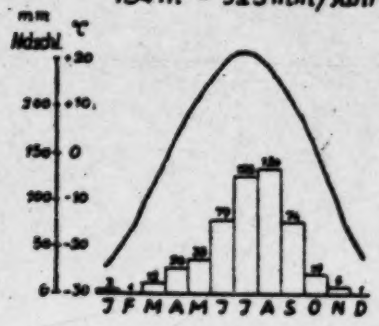
The coastal climate dominates the entire coastal strip from Vladivostok in the south to the north beyond Okhotsk. Because of the coastal strip's variations in width there are climatic variations between individual sections, but only in a gradual sense. It is useful, however, to divide the area in two, and to treat the southern coastal area separately from that of the north.

To the southern coastal area belongs the area from Vladivostok to the mouth of the Amur River. The hinterland is occupied in its entirety by the Sikhote-Alin'. Its principal chain acts as a climatic dividing line in summer and in winter. Despite the proximity of the ocean, the winter on the coast is marked by continental severity. It is more severe in the north, where a solid sheet of ice is formed between the mainland and Sakhalin Island, than in the south, where only a thin crust of floating ice is formed at the coastline. The entire coastal strip is subject to the cold, continental air masses pushing toward the sea. Nevertheless, temperatures on the coast are not as low as west of the Sikhote-Alin'. For one thing, the masses of air are forced down on their way to the sea, and this causes the temperature of the air to rise. Then there are also in-blowing winds, coming from the open sea, blowing even in winter, which contribute to the raising of the average temperature. In contrast to the winters, the summers of the coastal area show the characteristic traits of a maritime climate. The cool masses of air blowing inland from the sea are further cooled by the cold coastal current and contribute considerably to the lowering of temperatures in the coastal area, whereas to the west of the Sikhote-Alin', the influence of the sea on air temperatures is hardly perceptible anymore. The extent /68/ /Climatic Diagram: Okhost; Petropavlovsk/ to which the Sikhote-Alin' acts as a climatic dividing line in relation to temperatures is demonstrated in the contrasts between the two localities Ol'ga and Voroshilov (formerly Nikolsk Ussuriyskiy), both on

Climate Diagram

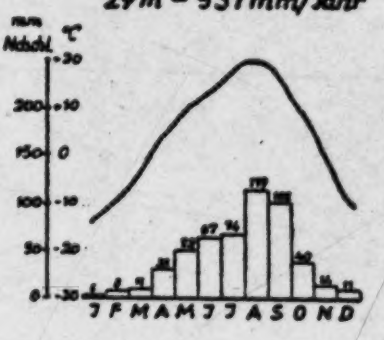
132 BLAGOVESHCHENSK

134 m - 525 mm/Jahr



VLADIVOSTOK

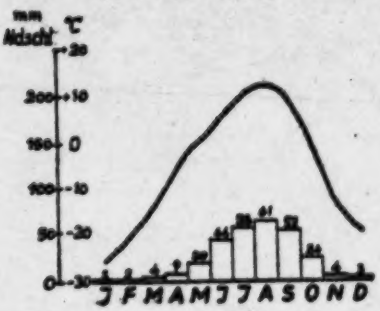
29 m - 537 mm/Jahr



Climate Diagram

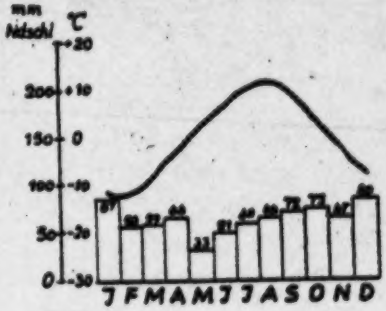
132 OKHOTSK

6m - 283mm/Jahr



PETROPA. VLO. VSK

102m - 772mm/Jahr



132 approximately the same latitude and separated by only 275 kilometers:

	Ol'ga	Voroshilov
January	- 11.7°	- 19.5°
July	19.0°	21.1°

Another mark distinguishing the maritime character of the summer climate in the coastal area is the delay in the hottest period of the year; for in all the localities along the coast from Vladivostok to the mouth of the Amur River August is the hottest month, whereas all stations in the interior register July as the hottest month. The longer transitional periods on the coast can also be interpreted in the same way. The transition is not as sudden as in the interior of the Amur and Ussuri areas. Hence there is a longer period of vegetation in the coastal area, reducing in length as you go toward the interior. Ol'ga, for example, has a period of vegetation lasting 185 days, Khabarovsk one of 172 days, and Blagoveshchensk one of 164 days. On the other hand, the raw and humid summer hinders the growth of vegetation. On the eastern side of the Sikhote-Alin' trees generally grow less high than on the western side. North of the 44th latitude mountains higher than 1,200-1,300 meters are usually bare. On the other hand no glaciers form because of the scarce rainfall in winter.

The annual rainfall in the coastal area is as a rule greater than in the Amur and Ussuri area. In the seasonal /69/ distribution of the rainfall, too, the coastal region has a different picture than the interior of the land. The concentration of the rainfall in the summer months is not so strongly marked. Spring and fall have a higher percentage of rainfall. In the following comparison of the monthly rainfall (in millimeters) of Ol'ga and Blagoveshchensk, these traits appear clearly:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Blagoveshchensk	3	1	12	26	38	79	128	136	74	19
Ol'ga	14	13	21	39	85	88	105	132	138	60

	Nov.	Dec.	Total for Year
Blagoveshchensk	5	1	522
Ol'ga	40	17	752

The contrast appears more sharply if the individual seasons are summerized together. (Figures are in millimeters):

	winter	spring	summer	fall	year
Blagoveshchensk	5	76	343	98	522
Ol'ga	44	145	325	238	752

The different type of distribution of the annual rainfall goes back to the cyclone activity. The regular paths of cyclones in East Asia move toward the north with the beginning of and during the warm season. In the early part of the year they reach the coastal area, but they reach the Amur and Ussuri region only in the summer and then withdraw again toward the south; accordingly the coastal area is also visited by numerous cyclones in the fall. Thus the cyclone activity is more active in the early year and fall than in the summer; and accordingly the great part of the summer rainfall undoubtedly goes back to the monsoon winds. However, the entire phenomenon of cyclone activity and also the appearance of the ends of typhoons in the Soviet Russian Far Eastern region has still been too little investigated to make it possible to give more exact and final data. Vladivostok and also the southern Sikhote-Alin' are often, especially in late summer, visited by strong storms, which frequently can take on a typhoon-type, destructive character.

A further characteristic of the coastal climate is the frequent appearance of fogs. These arise where the surface water temperature is lower than the rest of the sea. That is the case in the cold stream off the coast. With the predominance of southeastern winds in the summer periods these warm air masses, satiated with dampness, are borne toward the continent. On passing over the cold water stream they quickly cool off, a phenomenon which is contributed to by the mixture with local, relatively cold air masses. With this the air masses are forced to separate off the excess of dampness brought along, and this happens in the form of fogs. These often /70/ envelop the entire coastal strip for days and are often driven into the land with their damp coolness. This makes especially noticeable the contrast between the completely fog-covered coastal strip and the interior of bays, which remain free of fog. The cape "Nizmennyy Mys" lying before Ol'ga Bay is regularly enveloped in fog on 26 days in June and July, while the city of Ol'ga itself, which lies within the bay and is separated from the entrance to the bay only by a low, forest-covered mountain, has only 9-11 foggy days during the same period. In many years, however, it also happens that the month of July brings fog on 21-22 days.

132 The northern coastal country, reaching from Nikolayevsk on the Amur in the south to Shelekhov Gulf in the north, has a rougher character than the southern part. Okhotsk has a mean temperature for January of -25.2°, while Leningrad--lying at approximately the same latitude--has a mean January temperature of only -7.6°. The raw climate of the summer is traceable not only to the northern position but also very much to the cooling influence of the Sea of Okhotsk with its ice masses, which are preserved along the coast until the beginning of summer. Furthermore, there are the effects of the cold ocean stream along the coast (from north to south) and the cold water strips (see description of the Sea of Okhotsk) with their fogs, which are driven into the coastal area by the constant sea wind, sometimes even going up the Amur to Bureya since no morphological hinderances stand in the way of the penetration of the sea air masses.

The winds have a clearly marked monsoon charater. In the winter they blow from the cooled-off continent toward the sea, and in the summer the opposite is true. But here the contrast in the strength of the wind is remarkable. As a result of the barometric contrast between land and sea of 22 millimeters, the winter monsoon is much more strongly marked than the monsoonal air movement of the summer since then the fall in air pressure is only 6-7 millimeters. Powerful land winds--not uncommonly with the character of a storm--predominate from October to March. In the same period Okhotsk has 83 percent north and northwest winds with a velocity of 5 meters per second and more and only 5 percent calm; Nikolayevsk, which lies 38 kilometers above the mouth of the Amur and thus is somewhat distant from the coast, still has 64 percent land winds with a wind velocity of 3.8 meters per second and only 14 percent calm. In the summer, on the other hand, Okhotsk has only 50-52 percent winds with a velocity of 3 to 3.5 meters per second.

The summer temperatures are very much lowered by the cooling effect of the Sea of Okhotsk, but the influence of this sea doesn't reach far into the land, and on the coast from the Uda Bay to Okhotsk it reaches as a rule only the nearby watershed. Thus the Sea of Okhotsk influences only the mountain slopes inclined toward the sea, while on the other side of the ridge the warm continental summer rules. /71/ Astonishing is the contrast noted by travelers coming in the summer from Yakutsk to the coast. Oppressive heat of 30° and more with a completely clear sky still exists not far from the coast, and the coast has cool, damp, foggy weather with cloudy, overcast skies. Every breath of wind coming from the interior to the coast brings

welcome warmth, even heat, but also the unbearable plague of gnats unknown in the coastal area with its sea wind. Strikingly low is the June mean (Ayan 5.2°, Okhotsk 5.4°), but even August, the warmest month, reaches a mean of only 12-13° (Ayan 12.5°, Okhotsk 13.5°). The winter temperatures are markedly low, since the solid ice belt, which forms off the coast, and the floating ice, which covers the entire northern part of the Sea of Okhotsk, keep away from the coast the moderating influence of the sea. Nikolayevsk on the Amur has a mean temperature for January of -24.5°, Ayan one of -20.3°, and Okhotsk one of -25.2°. /32

The annual rainfall decreases generally from south to north. Okhotsk receives 283 millimeters of rainfall, and Nikolayevsk 447 millimeters. Ayan with a rainfall of 889 millimeters is an exception both in this and also in winter temperature; this is caused by local conditions. The annual rainfall along the entire coastal area is extraordinarily variable. In rainy years Nikolayevsk receives up to 701 millimeters; in dry years, on the other hand, it receives only up to 199 millimeters. The bulk of the rain falls in the summer and at the beginning of autumn; thus in this period 87 percent of the annual rainfall comes down in Okhotsk and 91 percent in Ayan.

Following the pattern of the rainfall, the cloudiness in summer is greater than in winter. As a mean this amounts in percentage:

	winter	spring	summer	autumn
Okhotsk	37	58	76	48
Nikolayevsk	42	56	60	55

The number of overcast days is largest in June, which has a mean of only 1-4 sunny days. Also the relative humidity of the air reaches 85 percent during this month, which is the maximum for the year.

The blossoming of the vegetation begins after the thawing of the snow cover at the end of May and the beginning of June. In the summer cool and damp days predominate. The winds constantly blowing from the sea often bring fog and a fine, heavily wetting drizzly rain. In late fall the winds abate, the weather is less rainy and is felt to be warmer, but already at the end of September the first snow falls, and the cold of winter sets in. The length of the vegetation period increases from north to south. In Okhotsk it amounts to 109 days (6 May to 24 September), in Nikolayevsk 138 days (22 May to

8 October).

132 The climate of the northern regions, comprising mainly the Anadyr' area and the Chukchi Peninsula, differs from the other areas in the Far East in the smaller effect /72/ of the monsoonal air circulation, in a long, harsh winter and a short, but comparatively warm summer; the mean temperatures of the warmest months exceed those of the northern coastal region and in part also those of Kamchatka. The farther away from the coast the less the monsoonal influence becomes, the annual range of temperatures increases, and the climate acquires continental [illegible]

In the vicinity of the coast the winter is still milder, the summer cool. Novo-Mariinsk /now: Anadyr'/, at the bay at the mouth of the Anadyr', has a July mean of 10.4° as opposed to Markovo which is at approximately the same latitude but lies 300 kilometers inland and which has a July mean of 14.1°. Markovo has three months with a mean over 10°, while Novo-Mariinsk /now: Anadyr'/ has only one month, the warmest, whose mean exceeds 10°. In the winter it is the reverse: Novo-Mariinsk /now: Anadyr'/ has a mean temperature for January of -23.3° and Markovo one of -28.7°. The rainfall is generally slight and, with the exception of the southeast (the coast of the Koryak Peninsula has 250 millimeters), nowhere exceeds 200 millimeters. In the summer half of the year, as a consequence of the predominant east winds, the coastal regions mostly have bad weather with numerous fogs, while in the same period dry, windless weather with clear skies and sunshine rules in the interior. Because of the greater warmth and because of the rainfall in the summer, there develop in the river valleys and in protected lowlands forests which consist of alders, willows, aspens, and birches, while in the coastal strip shrubbery at most appears; but mostly there is only tundra vegetation. However, the rule of the warm summer doesn't last long and is replaced by a cool, rainy fall followed already in September by the cold and snow of winter. Then north and northeast winds, which have a great velocity and which are feared for their snow storms, predominate. Many regions, especially mountains, are blown free of snow, while the snow is carried to other places to form great masses, which remain until the beginning of June and sometimes even until August.

Sakhalin

The climate of the island of Sakhalin, which stretches

approximately from the latitude of Hamburg to that of Trieste, is completely included in the sphere of the coastal climate. The reason for the roughness of the climatic conditions at this latitude lies in the position of the island in the vicinity of the Asiatic continent, with its east Asiatic monsoon climate, and the nearness of the Sea of Okhotsk, with its cold water masses, the cold stream with floating ice floes, which stretch along the east coast into the first half of the warm season. Only in the southwestern part of Sakhalin Island is the climate milder, because of a /73/ branch of the warm ocean stream which comes from the south of the Sea of Japan; and it is for this reason that the west coast is milder here than the east coast.

The fact that the island stretches 950 kilometers from north to south and the two mountain chains, which traverse the island in the same direction and follow protectively the valley depression of the Tym' and Poronay lying between the mountain chains, create the differences in the climatic conditions and in the character of the landscape. The degree of coldness in the winter decreases with the measure of the distance from the northern end of the island toward south, while the summer temperatures are equalized. The mean of the coldest month changes from -23.4° in the valley of the Tym' (Kirovskoye) to as much as -8° at the southern tip of the island (Cape Crillon). There is a much smaller difference in the summer temperatures, which are 15° in the central part and 17° in the south. The absolute minimum varies from -48° in the north to -31° in the south. The vegetation period increases significantly in length from north to south. At the northern end it is only 97 days (Okha), in the valley of the Tym' it is 146 days (Kirovskoye), and at the southern end of the island it is 167 days (Korsakov).

The protected central valley depression and the open coastal plains, subjected to the influence of the cold ocean with its constant fogs, show very great differences in thermic conditions, especially in winter; but in summer there are almost no differences. While the January temperatures are -16.6° on the west shore and -23.4° in the central depression, the warmest month on the west coast (August) has a temperature of 16.2°, and the warmest month in the central depression (July) also has a temperature of 16.2°. The difference in the warmest months points to the more continental climatic character of the central depression, which is protected from the influence of the sea; in this depression the warmth rises as high as 32° in the summer, and in the winter the temperature can sink to as low as -48°. The

132 mean annual temperature variation reaches 39.6° here, while it is 35.3° on the west coast and only 32.8° on the east coast. In comparison with the coast, the central valley depression has more calms, or winds of less velocity. The fog from the coasts, which is brought in by the winds at greater heights over the valley, looks like gray clouds and at most causes a light drizzling rain.

The west and the east coasts lie under the influence of two other seas differing in their temperatures. Near the southwest coast flows a branch of the warm stream coming from the Korean Strait. Only at the beginning does it touch the banks, and then it is pushed from the banks by a cool stream of less size coming from the La Perouse Strait; this cool stream at first accompanies the warm one. The northern part of the west bank and the east bank are, on the contrary, subjected to the influence of cold water masses, which appears on the banks in the west as water driven up /Auftreibswasser/ and in the east as a cold stream. The cold /74/ surface water of the Sea of Okhotsk is the reason for the summer covering of fog, which often hangs for weeks on the banks.

The northeastern and northern winds which in the winter blow over the Sea of Okhotsk, which is cool but not frozen over in the southern part, moderate the coldness of the winter and bring relatively heavy snowfall with frequent snow storms (buran). As a result of the predominant east winds with their fog, the summers are very cool: nowhere does July have a mean above 12°. On the west banks 600 to 800 millimeters of rain falls a year, and of this approximately half falls as snow. The summer is rainy. In July and August there is rarely a day without rain. September generally has the maximum rainfall, and February the minimum. The relative humidity of the air is very high all year round, and amounts on the average to 77-89 percent. While the mountain chains show a certain differentiation in climate in the south, this is not the case in the north of the island, where the mountains flatten out.

The winter period lasts 7 months in the north, 5-6 months in the south. March still has the character of winter everywhere, its mean being -5.3° in the south and more than -11.2° in the north. It is especially distinguished by the appearance of snow storms. For most of the winter the snow lasts no less than 200 days. At the same time the storms provide a very uneven distribution of snow, with many areas remaining free of snow, while in the valley depressions and basins

the snow masses pile up and often can even completely bury human dwellings. Solid ice seldom forms on the east coast even though floating ice floes can often be found on the sea even in June. The Strait of Tatar regularly becomes a solid ice bridge with the continent from December to March. Floating ice forms in the middle of the winter off the southwest coast and in the La Pérouse Strait. Spring is unfriendly and brings frost even in the beginning of June. Summer lasts only 2 to 2 1/2 months in the north, where only July and August are frost-free. The rainfall of summer consists mostly of light but continuous rain. The frost-free period begins earlier in the central depression and on the southwest coast; here June already brings higher temperatures, and July shows the full unfolding of summer. Autumn last two months and is warmer than spring, although the first frost appears in the north of the island in September.

The climatic conditions, especially in the north of the island, are not very favorable to agriculture. Along the flat coastal strip, covering an extensive area in various places, is tundra vegetation with Arctic flora; even today reindeer graze here--approximately /75/ at the latitude between Hamburg and Hanover. The conditions are most favorable in the central depression and on the southwest coast. Here summer wheat, summer rye, oats, and barley flourish.

Kamchatka

The climate of Kamchatka is rougher than could be expected from its latitude. The climate is determined by the peninsula's position between continent and ocean and its closeness to two cool seas and cold ocean streams; however, the coasts are significantly milder in climate than the coast of the neighboring continent. The winds have a monsoonal character. In the winter they blow from the Asiatic continent to the ocean, i.e. northwest winds predominate; in the summer, on the other hand, east and northeast winds predominate. Both in duration and strength the winter monsoon far exceeds the summer one, which appears only in June. In Petropavlovsk the winter monsoon has a mean velocity of 8.1 meters per second; the summer one has a mean velocity of only 4.2 meters per second. In this it must be taken into consideration that the northern half of the Sea of Okhotsk is for the most part covered with ice in the winter and acts as a climate extension of the continent.

But within this general air circulation appears a second, regular

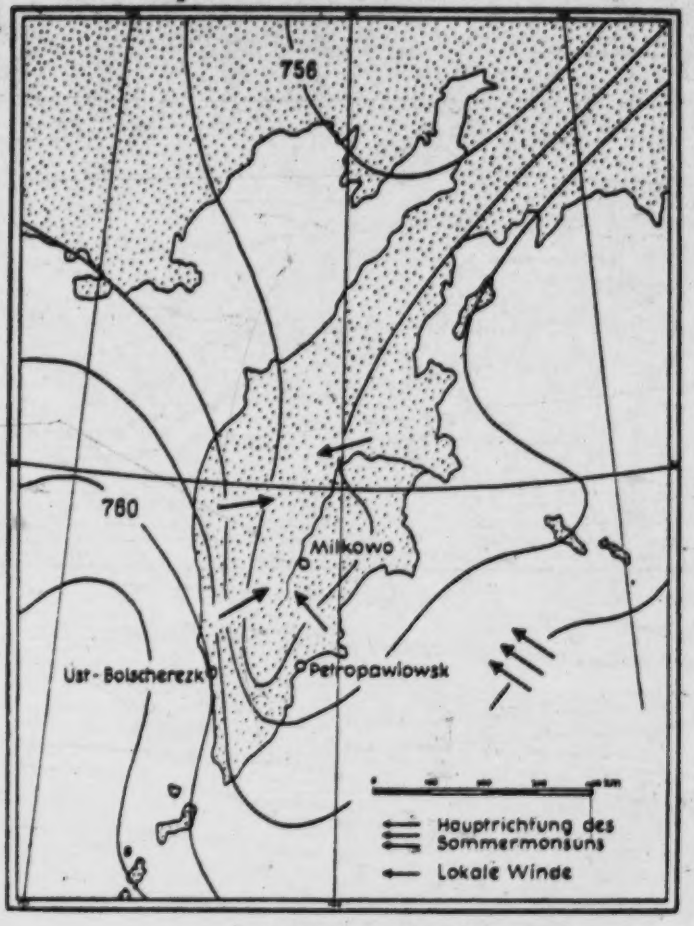
132 air movement, caused by local conditions; this second air movement in part works against the monsoonal one and plays a not unimportant role in the climatic conditions. In the winter there forms in the center of Kamchatka an area of high air pressure, which, in the form of a narrow tongue, extends into the peninsula from the northeast of the continent and coincides approximately with the Kamchatka Valley, which is protected by mountains on the east and the west; accordingly the air pressure decreases from north to south. The air masses flowing from this high pressure area of their own fall in with the direction of the general monsoon in the east; on the west side, on the other hand, they work against the general monsoon. For this reason the winter monsoon on the east coast (Petropavlovsk) is stronger than on the west coast. In the summer an opposite development is completed within the peninsula. A barometric depression forms over the protected Kamchatka Valley, and accordingly the local winds arising thereby in the east again fall in with the general monsoon direction, while the local winds in the west move against it. These conditions explain the fact that the monsoonal winds both in summer and in winter appear as a typical phenomenon only in the coastal strip, while toward the interior of the peninsula it occurs as a local deviation. The general monsoonal effect in the eastern part of the peninsula is strengthened by local influences. Irregularity and change in the general picture brings the appearance of Pacific cyclones, which, however, have still been very little investigated. In winter their appearance is coupled as a rule with northeast winds.

/76/ /Sketch Map of the Wind Directions:/

The great stretch of the peninsula from north to south, along with the morphological division, changes the general face of the climate in the individual provinces. Characteristic is the decline in the winter temperatures with the distance from the coast and the rise in the summer temperatures and the annual variation in temperature in the same direction. We find the lowest winter temperatures in the Kamchatka Valley, where Mil'kovo has a January mean of -25°, while the coasts have higher temperatures: thus Ust'-Bol'sheretsk on the west coast has a mean of -15.1° and Petropavlovsk on the east coast has one of -11.2°: these last two figures are the mean for February /77/ /Sketch Map of Wind Directions:/ which here is the coldest month. This, too, is a characteristic sign of the contrast between the coastal zones and the interior. In April the temperatures are almost completely the same throughout the peninsula. In summer the interior is again warmer (Klyuchi, July mean 14.7°), while the coasts are relatively cool: thus

Sketch Map of the Wind Directions:

132

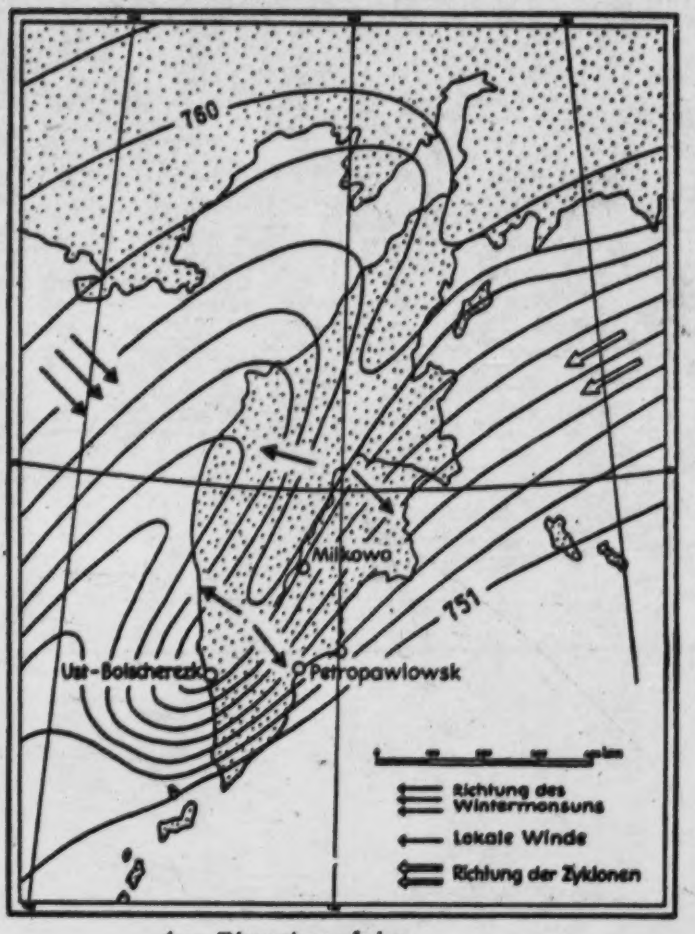


Main Direction of the Summer Monsoon

Local Winds

Sketch Map of Wind Directions:

132



← Direction of the winter monsoon

← Local winds

Direction of the cyclones

Ust'-Bol'sheretsk has a mean temperature for August of 12° and Petropavlovsk one of 11.9°. In October the temperatures are again even over the entire peninsula. The absolute maximum of 28° and the absolute minimum of -50° have been determined in the Kamchatka Valley, where, too, the greatest daily variation of more than 15° has been measured. /78/ In Kamchatka the vegetation period begins around the end of May or beginning of June and ends the beginning of October. It lasts the longest in the interior of the peninsula, while it is significantly shorter on the coasts and in the north. Thus in Klyuchi the length of the vegetation period is 134 days, in Petropavlovsk it is 127 days, in Ust'-Bol'sheretsk 107 days, and in Tigil' (in the north) only 96 days.

The annual rainfall generally decreases from the southeast of the peninsula, where it is more than 800 millimeters, to the northwest, where it sinks to 350 millimeters and less. The coasts receive the greatest rainfall, while the Kamchatka Valley is prominent for its slight rainfall. The number of days with rain ranges between 120 and 200, the number of days with snowfall ranges between 70 and 96. Characteristic of Kamchatka is the great duration of the snow covering, which generally remains almost until the end of May and in the mountains often remains even into June; however, the appearance of the first snow is very late in comparison with the neighboring regions of the Far East. September is as a rule still without snow. In the annual distribution of the rainfall there are two high points--summer and winter--while spring and fall bring slighter rainfall. The relative humidity of the air is higher in winter and summer than in the transitional seasons, and in this the coastal zones exceed the interior. The maximum on the coast (Petropavlovsk) has been recorded in August when it is 87 percent.

Clouding is greater in summer than in winter, but the difference is not so great as in the other regions in the Far East. Within Kamchatka, naturally enough, the coastal regions show a greater clouding. On the west coast (Ust'-Bol'sheretsk) it reaches 89 percent in July, 67 percent in December, while in the Kamchatka Valley (Mil'kovo) it is 69 percent in July and only 49 percent in December. Very sharply marked is the difference between the coasts and the interior in the number of bright, overcast, and foggy days: (Table on following page)

Characteristic of the coastal regions of Kamchatka, especially in summer, are the thick fogs which give the traveler a gloomy impression of the land. In Petropavlovsk it is foggy almost every second day. Fogs dominate the west coast even more, while in the interior

132 Relative Numbers of Bright, Overcast, and Foggy Days

	January			July		
	bright	overcast	foggy	bright	overcast	foggy
Ust'-Bol'sheretsk	2	14	1	0	25	25
Mil'kovo	18	6	3	3	16	0

fog very seldom occurs in the summer.

Kamchatka can be divided into three regions according to the climate differences: the east coast, the west coast, and the interior.

/79/ The east coast lies under the oceanic monsoon in summer; in winter, apart from the north winds, it lies under the Pacific cyclones coming from the northeast and generally under the cold ocean stream, especially in the north, while in the southern part of the coast the moderating influence of the Pacific is more noticeable. The southeast coast, therefore, with a temperature range of 23.1°, has the smallest annual range in temperature. Winters along the east coast are generally mild (February -11.9° to -13.9°), and the summers are cool (August 11.9° to 12.5°). The nearness of the ocean postpones the extreme months to February and August. The ground freezes only to a slight depth (10 centimeters). In contrast to the other monsoon areas in the Far East there is only a slight difference in rainfall between summer and winter. In this connection the east coast is distinguished by an abundance of winter rain in contrast to the other parts of the peninsula, especially in contrast to the interior. This abundance of winter rain on the east coast is brought by the northeast winds coming from the sea with their cyclones; these cyclones can often bring great quantities of rain in a brief period. Thus 189 millimeters once fell in Petropavlovsk in one day in October (205). In certain winters, especially warm ones,

205. Suslov, S.P., Fizicheskaia geografiia SSSR /Physical Geography of the USSR/, (Moscow-Leningrad, 1947), p. 371.

there is often more rainfall than in the summer half of the year. As a consequence the east coast has a high snow covering with a mean of 130 centimeters, in individual cases even of 300 centimeters (March, 1916). The southeast coast is especially notorious for its days with snow storms and snow drifts. Not uncommonly the snow drifts go up to the roofs of the houses in Petropavlovsk. The snow thaws in May to the beginning of June. In some years the volcanic ash which falls down has an accelerating effect on the thawing of the snow. Summer

on the east coast is distinguished by heavy clouding and numerous fogs. In July as a rule half the days are foggy. 132

The western coastal area is more under the influence of the Sea of Okhotsk and is dominated in winter by the cold and dry monsoon and northeast and east winds, which come from the center of the peninsula and which are cold and dry, in contrast to the east coast. For these reasons the rainfall in the winter is only a fraction of the summer rainfall: the winter rainfall is only a fourth to a third of the summer rainfall. The snow covering on the west coast is therefore slight, generally reaching only 40 centimeters. However, the distribution is uneven since the winds coming from the mountains often blow the mountains free of snow and pile the snow in the troughs and valleys. However, in contrast to the east coast, snow storms are a rare phenomenon. Summer is cool and especially foggy, the clouding is very great. The local winds, which move into the interior of the island, often carry fog into the land for days and bring a damp coolness, which is of little help to plants. /80-81/Charts on following pages/ /82/ The vegetation period is significantly shorter on the western side of the peninsula than on the eastern side.

The peninsula's central depression, which for the most part is occupied by the valley of the Kamchatka River, is extensively protected from the influences of the sea by two mountain chains on the east and the west; accordingly clearly marked, continental traits can be recognized in the climatic conditions here. Summer is warmer and drier than on the coasts; winter, on the other hand, is harsh but brings less snow than on the east coast, though even more than on the west coast. Characteristic of the central depression are the rapid transition from winter to summer and the warm autumn; accordingly we find here the longest vegetation period on the peninsula. The stone birches unfold their buds already in the middle of May here, while they appear in the coastal areas only around the 15th of June. As a consequence of this favorable condition, Kamchatka's central depression is most favorable for agriculture, which has already spread here on a large scale, while the coastal areas offer more opportunities for developing animal breeding.

The Border Seas of the East

Through its possession of the Kurils and southern Sakhalin, the Sea of Okhotsk has become a Soviet Russian internal sea since 133

/80/ Mean Air Temperatures in Degrees Centigrade

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Transbaykal													
Barguzin	-27.0	-23.4	-12.1	-0.3	7.6	15.0	18.2	15.8	8.6	-0.6	-12.8	-23.8	2.9
Ulan-Ude	-26.7	-21.7	-11.9	0.5	8.1	16.2	19.2	16.4	8.4	-0.9	-13.0	-22.5	-2.2
Troitskosavsk /now: Kyakhta/	-23.1	-19.0	-9.8	1.6	9.4	16.7	19.2	16.5	9.0	0.1	-10.8	-19.1	-0.8
Chita	-27.4	-22.3	-12.4	0.0	7.9	15.7	18.7	15.4	8.2	-1.7	-14.5	-24.1	-3.0
Nerchinsk	-31.4	-25.5	-15.0	-0.2	9.5	17.2	20.5	17.0	9.6	-1.8	-17.0	-28.9	-3.8
Amur-Ussuri-Area													
Blagoveshchensk	-24.2	-18.1	-9.5	2.4	10.4	17.4	21.2	18.7	12.1	1.4	-11.4	-21.6	-0.1
Khabarovsk	-23.1	-17.4	-8.8	2.8	10.9	16.7	20.2	19.6	13.6	4.2	-8.3	-19.4	0.9
Bikin	-22.2	-17.4	-8.7	3.7	11.9	17.0	20.4	20.3	12.6	4.7	-8.0	-19.3	-1.2
Coastal Area													
Vladivostok	-13.7	-10.1	-3.7	4.4	9.5	13.6	18.1	20.6	16.5	9.3	-0.5	-9.6	4.6
Ol'ga Bay	-11.7	-8.8	-2.8	-4.2	8.6	12.4	16.9	19.1	14.5	7.1	-1.8	-9.7	4.0
Nikolayevsk	-24.5	-19.8	-12.7	-2.6	3.6	11.4	16.7	16.1	11.4	2.0	-9.9	-20.1	-2.1
Ayan	-20.3	-15.7	-10.1	-2.8	1.7	5.2	12.2	13.5	10.1	0.2	-10.6	-17.6	-2.9
Okhotsk	-25.2	-20.5	-14.5	-6.0	0.3	5.4	11.7	12.5	8.1	-2.3	-15.4	-21.9	-5.7
Kamchatka													
Petropavlovsk	-11.0	-11.2	-7.2	-2.0	2.2	6.7	10.6	11.9	9.2	3.9	-2.5	-7.6	0.2

(Chart continued on following page)

/80/ Mean Air Temperatures in Degrees Centigrade

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Bol'sheretsk	-13.6	-15.1	-10.1	-2.5	2.1	5.0	11.0	12.0	7.8	2.4	-3.5	-10.2	-1.2
Sachalin													
Aleksandrovsk	-19.1	-15.6	-9.6	-0.2	5.2	10.8	15.5	16.2	12.0	4.1	-5.6	-13.9	0.0
Korsakov (Otomari)	-11.2	-8.9	-5.3	-1.2	5.3	9.6	14.5	16.8	13.7	7.2	-0.6	-7.2	2.8
Far North													
Markovo	-28.7	-25.7	-23.3	-15.2	-2.4	10.0	14.1	10.1	3.0	-8.6	-19.7	-26.3	-9.4
Novo-Mariinsk /now Anadyr'/	-23.3	-21.3	-19.9	-14.9	-3.8	4.9	10.4	9.4	3.7	-4.8	-15.1	-21.5	-8.1

/81/ Rainfall and Distribution in Millimeters

	Height in meters	Annual total	Summer half of the year	Winter half of the year	June, July, August	December, January, February
Transbaykal						
Barguzin	500	200	200	60	131	29
Ulan-Ude	542	202	179	33	127	12
Troitskosavsk /now: Kyakhta/	760	280	256	24	161	10
Chita	683	319	285	34	217	9
Nerchinsk	484	281	249	32	180	10
Amur-Ussuri-Area						
Blagoveshchensk	134	522	481	41	343	5
Khabarovsk	50	564	487	77	349	18
Bikin	73	616	496	120	308	29
Coastal Area						
Vladivostok	29	537	446	91	260	24
Ol'ga Bay	45	752	587	165	325	44
Nikolayevsk	21	447	300	147	168	48
Ayan	10	889	665	224	441	36
Okhotsk	6	283	244	39	163	7
Kamchatka						

(Chart continued on following page)

/81/ Rainfall and Distribution in Millimeters

	Height in meters	Annual total	Summer half of the year	Winter half of the year	June, July August	December, January, February
Petropavlovsk	102	772	348	424	177	215
Bol'sheretsk	10	525	389	136	207	52
Sachalin						
Aleksandrovsk	16	600	335	265	174	104
Korsakov (Otomari)	37	494	304	190	325	77
Far North						
Markovo	26	200	142	58	103	25
Novo-Mariinsk /now: Anadyr'/	5	189	138	51	94	25

3: Thiel--89 K-4,5 (no date) 1953 RRI Siberia RRI

133 World War II. It is separated from the Pacific Ocean by the barrier of the garland chain of the Kurils, where the numerous openings, which are only of slight depth, allow but a surface exchange of water. There are two connections with the Sea of Japan: La Perouse Strait and the Tatar Straight. The latter has been shut off by a dam connecting Sakhalin with the mainland since 1952. For the rest, the Sea of Okhotsk washes against the western side of Kamchatka, the mainland coast, and the north and east coasts of Sakhalin.

The Sea of Okhotsk

The northern coast seems more divided up than the other coasts. the Taygonos Peninsula divides the great Shelekhov Bay into the Gizhiga and Penzhina bays. West of Cape Koni the Tauyskaya Bay penetrates into the land, and in a part of this bay--the Nagayevo Bay--lies the harbor of Magadan which has become very well known in recent years. In the extreme west, where the mountain chains stretch into the sea, land and water penetrate one another and cause a disturbed, horizontal division; the Shantar Islands lying off the coast contribute to this. Apart from these islands and some coastal islands in the north, the Sea of Okhotsk is poor in islands; only the rocky /83/ /Map of the Sea of Okhotsk:/ St. Jonas Island lies alone in the watery area of the western part. For the rest the coasts appear strikingly rectilinear. On the west coast the mountains run parallel to the coast and slope to the coast in a steep descent. Flat approaches to the sea are found only at the mouths of rivers or behind bays. On the other hand the coasts of Kamchatka and Sakhalin are overwhelmingly flat.

/84/ The greatest depth in the Sea of Okhotsk lies in the south, where a channel more than 3,000 meters deep stretches parallel to the Kurils; the greatest depression here is as much as 3,374 meters. From this deep sea valley the bottom of the sea rises steeply to the barrier of the Kurils, and then on the other side of these islands, it declines sharply to the long Kurils deep sea graben which is more than 8,000 meters deep. Toward the north, on the other hand, the bottom of the sea rises gradually. There the 200 meter-deep line runs along the coast at a distance of from 150 to 200 kilometers.

The main part of the water balance of the Sea of Okhotsk is equalized by the continual influx from the Pacific Ocean, just as in reverse there is a constant outflow from the sea to the ocean; also a limited exchange of water with the Sea of Japan via La Perouse Strait.

Map of the Sea of Okhotsk:

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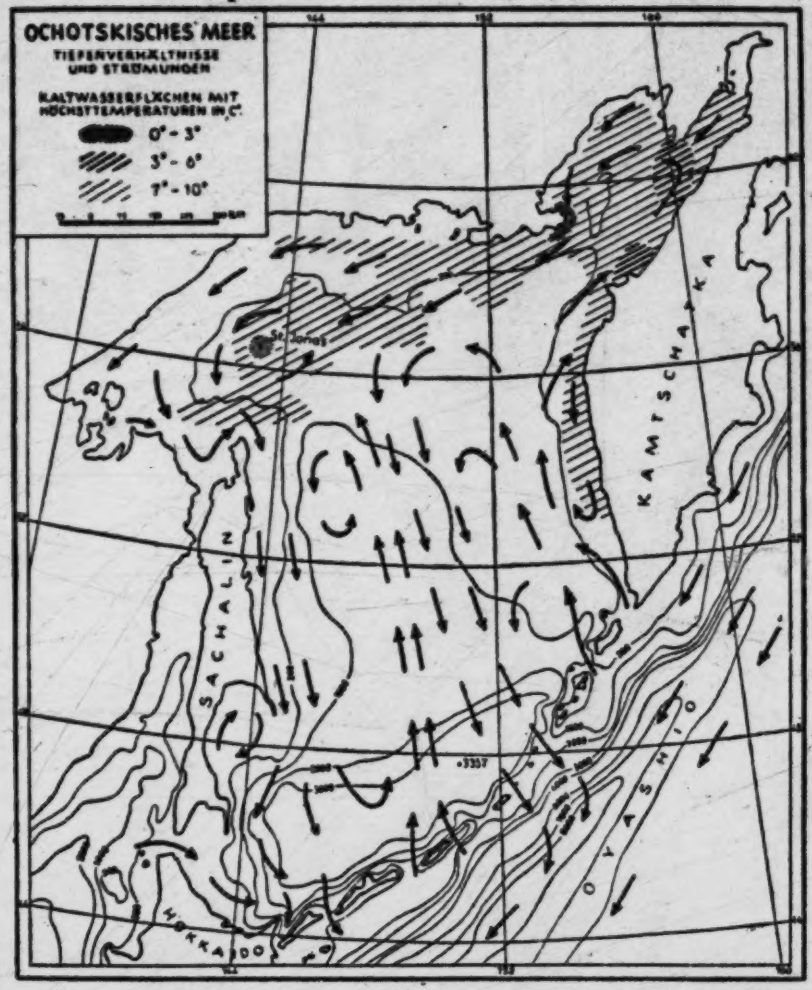

Depths and Currents; Cold water areas with highest temperatures in degrees centigrade

takes place. The Pacific surface water enters the Sea of Okhotsk 133
through one series of sea connections between the Kurils, while through others there is a surface flow of water from the sea to the ocean. At the deeper levels of water the exchange works in the opposite direction from that on the surface. Since only four of the sea straits between the Kurils are over 500 meters deep, and of these only two are over 1,000 meters deep, and since, in addition, their breadth is very slight, the exchange of deep water is kept within very limited borders and has as good as no influence in the sense of an equalization of temperature between sea and ocean. In this the bulk of the water layers of the Sea of Okhotsk, which lie more than 1,000 meters deep, cannot be drawn at all into an exchange.

Even though the picture is somewhat confused by the numerous openings and their various current directions, a clear sea current can nevertheless be recognized within the Sea of Okhotsk; this sea current moves counterclockwise along the coast. It enters the Sea of Okhotsk south of Kamchatka Peninsula and moves toward the north along the west coast of this peninsula; in the north, however, it is pushed somewhat off the coast by a cold water stream coming from the north. In Shelekhov Bay the current turns and follows the coast toward the west. This turn in the bay and the slanting stretches following the coast lead to the presence of cold water upwelling /Auftriebwasser/, which is drawn into the general current; this general current then follows the west coast farther, washing up around St. Jonas Island. Strengthened by the influx of water from the Amur, the current then runs along the east coast of Sakhalin toward the south, where it unites with the water stream coming from La Perouse Strait, and then again reaches the Pacific Ocean through the southern gaps of the Kurils. The currents in the middle of the Sea of Okhotsk fit into the framework of the main current described.

Tides appear on all of the Sea of Okhotsk. The tidal wave comes from the Pacific Ocean and enters the area of the Sea of /85/ Okhotsk through the gaps between the Kurils; the tidal wave is strongest in the middle of the island chain and then spreads out almost equally. The range has a mean of 4 meters in the open parts of the coast, but in the interior of the great bays it grows strong and reaches, for example, 11.3 meters in Gizhiga Bay.

The long, cold winter with its raw winds blowing from the 132
mainland causes a marked cooling off of the water; the short and cool 133
summer with predominantly heavier clouding and numerous fogs brings

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133 only a slight warming up; and accordingly the temperature of the surface water layer rises only a little above 10° in the summer. This seasonal rise in temperature applies, however, only to the water levels to a depth of at most 30 to 50 meters, while the layers lying under this have a constant temperature, which is negative /in Centigrade/. Investigations have shown that the water temperature at first gradually decreases as the depth increases and then with a leap the water temperature reaches 0° already at a depth of 15 meters. Then the temperature lowers only very slowly, reaching -1.5° at depths from 75 to 150 meters. Then follows a slow rise in temperature until the bottom of the sea, where a temperature of 1.2° dominates in the north and one of 2.5° dominates in the southern part of the sea. With the formation of ice and the crystallization of salt, the surface waters can become so thick that they sink toward the depths.

Characteristic of the Sea of Okhotsk are constant cold water zones, which are a permanent phenomenon in certain areas and which give these parts of the sea a special stamp. These cold water zones are related genetically to the current conditions and can be explained as upwellings /Auftriebswasser/. Three such regionsshould be named above all: the one off the Yama Bay in the area of the Yamsk Islands; the one around Jonas Island; and the third in the open sea approximately between the north end of Sakhalin and the Shantar Islands. Within the first two cold water areas mentioned, the water temperature never rises above 1°, and in areas around these places it always remains 3° to 5° below the mean temperature of the sea. Off the entrance to the Penzhina Bay the water temperature even in high summer is never higher than 5° to 6°. The current emptying into the Shelekhov Bay turns here within the bay again toward the exit and draws upwelling /Auftriebswasser/ from the smaller bays toward it; the appearance of the latter off the Yama and also the Penzhina bays is especially striking. From the Yama Bay the cold upwelling stretches toward the southwest and thus in the direction of the general current; in this the upwelling water gradually and partially warms up on the surface or in part also sinks down, but certain cold water stretches are nevertheless recognizable. The sea bottom elevation of the massif around Jonas Island, it is assumed, causes /86/ again the rise of cold water layers, which are very characteristic of the environs of the island. The water is never warmer than 1° in the vicinity of the island and never more than 1° to 3° a bit farther off the island. The cold water zone lengthens from Jonas Island then toward the south, where there is still further

cooling off between the Shantar Islands and the north end of Sakhalin; 132
the cause of this is regarded as the strengthening of the general cur- 133
rent by the addition of the water masses of the Amur.

The cold water zones are noticeable in summer because of the heavy formation of fog, which becomes heavier in relation to the contrast between the air and the water temperatures. For weeks in the summer there often lies over these regions thick banks of fog, which clear up only with bad weather. Nowhere in the Sea of Okhotsk is the fog so constant and so thick as in the area of the Yama Bay and around Jonas Island. The winds contribute to the spreading of the fog, and accordingly it also appears over regions with relatively warm water. But the source of the fog is clearly the cold water areas, where new masses of fog always form. These masses of fog are characteristic for the entire north of the Sea of Okhotsk and hinder sea traffic.

Since the Sea of Okhotsk projects far into the mainland mass of the continent--the low winter temperatures are, of course, known--a solid ice covering forms already in December along the entire coast from the Strait of Tatar in the south to Penzhina Bay in the north. In February the entire northern half of the sea is covered with floating ice, and the ice floes are often shoved together into a closed covering until a storm again tears them apart. Only by the middle of June is the bulk of the sea entirely free of ice. Further discussion of the ice covering and its significance for man is given in the section on sea transportation.

The salt content of the Sea of Okhotsk is slighter than in the 133
neighboring seas and varies between 32 percent and 32.5 percent. The salt content increases with the depth and reaches 33.5 percent to 34.5 percent at the bottom of the sea.

The Bering Sea

The Bering Sea is the most northerly border sea of the Pacific Ocean, from which it is separated by the islands of the Aleutian chain. However, the closing between the Bering Sea and the Pacific is not so shut off as is the case with the Sea of Okhotsk, since between the Commander Islands and the beginning of the Aleutian chain there is a connection which is up to 342 kilometers wide and up to more than 3,000 meters deep. Accordingly an exchange of water up to this depth can go on unhampered. The connection via the Bering Strait /87/ /Map of the Bering Sea:/ /88/ to the northern Polar Sea has, on

Map of the Bering Sea:

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Depths and Currents

133 the other hand, a width of only 35 kilometers and a slight depth of up to 59 meters; accordingly the influence of the cold polar water from the Chukchi Sea is limited to a minimum. As a result of this there is an overwhelming equalization of the Bering Sea with the Pacific Ocean, which, however, has different facets according to the structure of the sea basin.

The Bering Sea can be divided into two parts according to the relief of the sea floor. The northeast as far as a line from approximately Cape Navarin on the Russian side to Unimak Island off the west end of the Alaskan peninsula rests on a mainland shelf, and everywhere has depths of less than 200 meters. This part comprises 44 percent of the entire area of the sea. From the above-mentioned line the sea floor declines very precipitously toward the south to depths of from 2,000 to 4,000 meters; thus this part of the Bering Sea is a deep sea basin. The portion of this part in the total area of the sea is 43 percent. The remaining 13 percent belongs to the sloping of the mainland parts to deep sea basins with depths of 200 to 1,000 meters. The greatest depth in the Bering Sea is 4,100 meters. (205)

205. Suslov, S.P., Fizicheskaia geografiia SSSR /Physical Geography of the USSR/, (Moscow-Leningrad, 1947), p. 226

The varying relief of the floor of the Bering Sea with the steep rise from deep sea basins to the shelf produces very complicated current conditions. The main stream of the Pacific water enters the Bering Sea through the main gate between the Commander Islands and the Aleutian Islands and turns toward the northeast in the direction of the Bering Strait. However, upon hitting the border of the shelf the current divides into an eastern and a western branch, with the eastern one remaining within the deep sea basin and ending in a circle-shaped current moving counterclockwise. The western branch also remains in part in the deep sea basin, and in the central part also becomes a circle-shaped current, moving, however, clockwise. A part of this western branch, however, reaches the mainland coast in the west and in Olyutorski Gulf draws up, to the surface cold water /Auftriebswasser/ in passing by which continues along the coast of Kamchatka toward the south. It leaves the Bering Sea with a strong current between Kamchatka Peninsula and the Commander Islands, and then in a relatively cold state unites with equally cold water coming from the Sea of Okhotsk, and becomes the Oyashio /Okhotsk Current/.

A part of the entering mainstream of the Bering Sea enters the shelf 133 and with moderate speed draws in a northward direction over the Bering Strait into the Chukchi Sea. This current is reinforced by another Pacific current that presses in over the Unimak Sea strait (west of the island of the same name), immediately contacts the shelf and then flows alongside the west coast of Alaska along with the central current, and then via the Bering Strait into the Polar Sea. The accompanying sketch map serves to orient the reader as to further details on the currents of the Bering Sea.

For the most part the surface water temperature depends upon 132 the general climatic conditions. Located in high latitudes /89/ and 133 situated in between the mainland mass of northeast Siberia and northwest America with their long and servere winters, the Bering must be designated as a very cool sea. In the summer the surface waters along the shelf areas manage to warm up only to a limited degree and then, apart from the warm currents, reach temperatures of only 7 to 9 degrees. The surface water in the deep sea basin is as a rule warmer and reaches a warmth of from 10 to 11 degrees. It is of special significance and worthy of note that the surface waters of the Bering Sea, because of the permanent inflow of warm water from the Pacific throughout the whole year, cause the temperature of the Bering Sea to have a year-round temperature higher than that of the air. A. A. Borisov (39)

39. Borisov, A. A., Klimaty SSSR /The Climate of the USSR/, (Moscow, 1948), p. 122.

has published the following table:

Month	Water Temperature	Air Temperature
January	-1.0°	-3.8°
April	1.6°	-0.9°
June	10.3°	8.5°
October	6.9°	4.3°
Annual	4.7°	2.1°

Because of the exchange of deep waters with the Pacific Ocean, the deep-water temperatures of the Bering Sea are completely different from those of the Sea of Okhotsk. From a summer surface

132 temperature of 10°, at a depth of 30 to 40 meters, the temperature
133 gradually drops from 4° to -6°. At 100 to 150 meters lies the coldest water level, with a temperature of from 0.5° to 1.0°. Below this depth, at from 200 to 500 meters, the temperature again rises to as high as 3.5° and then gradually drops again to from 1° to 2° at depths from 2,000 to 3,000 meters. The coldest surface water is found in the Olyutorski and Anadyr' bays. Both are characterized by constantly rising deep waters and especially strong clouding. The cold, southward-flowing current along the east coast of Kamchatka also creates thick fog banks, which are a special feature of the Kamchatka coast.

133 The salt content of the Bering Sea is, in general, high, reaching 32 percent at the surface and rising at a depth of 3,000 meters to 34.5 percent. It is only in the extreme north that the salt content diminishes, becoming at this point 27 percent, because of the influx of fresh water from the Anadyr' and Yukon.

During the winter all along the coast of the northern part of the Bering Sea, a solid ice sheet forms, in front of which is a broad area covering with floating ice floes, which also cling to the east coast of Kamchatka. The edge of the floating mass of ice runs somewhat south of the rim of the ice shelf and is parallel to the shelf. Off Anadyr' Bay and the entrance to the Bering Strait the floating ice accumulates and becomes thick pack ice. The warm water current causes the ice to melt very early, however. By the middle of May it remains only along the Asiatic coast, /90/ and in June it still remains only at Anadyr' Bay. By July the Bering Sea is completely ice free, and the ice edge recedes back to the Polar Sea.

The Sea of Japan

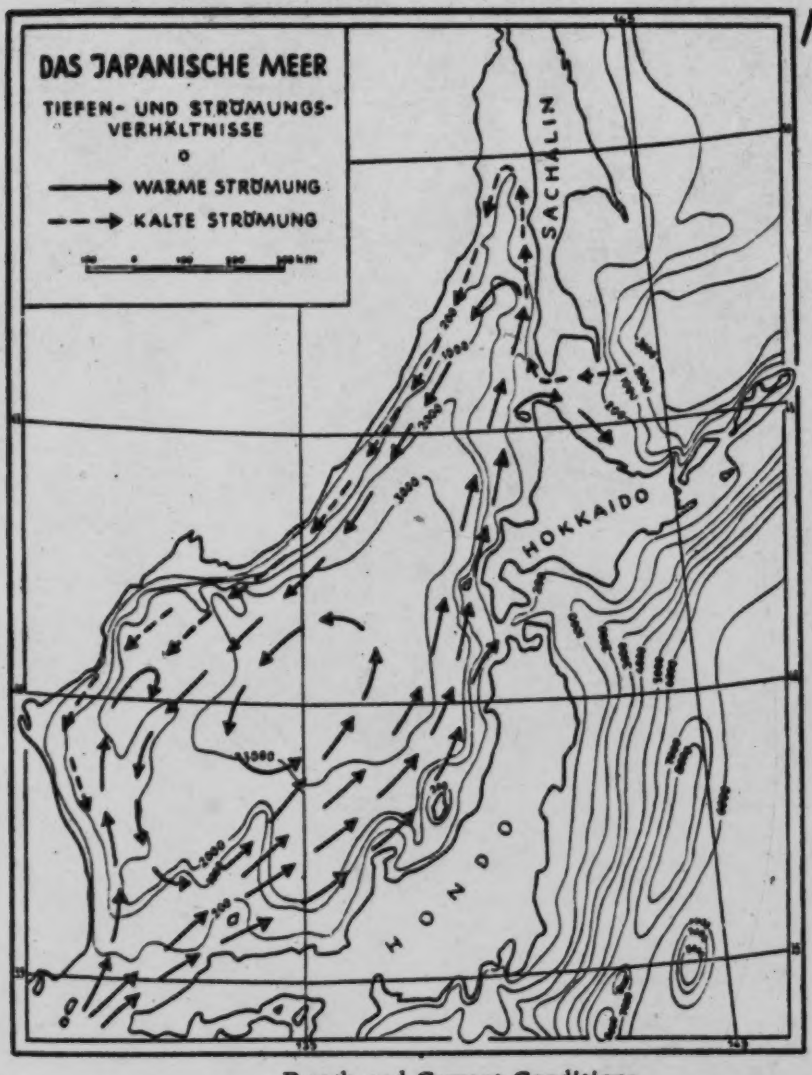
The Sea of Japan stretches between the Asiatic continent to the west and the islands of Sakhalin, Hokkaido, and Hondo /Honshu/ to the east. It is connected with the East China Sea by way of the Korea Strait (depth: 167 meters), with the Pacific Ocean by the Straits of Tsugaru (106 meters) and Shimonoseki (30 meters), and with the Sea of Okhotsk by La Perouse Strait (55 meter) and the now blocked-off Tatar Strait (8-10 meters). In view of these relatively shallow connections to the neighboring sea areas, the Sea of Japan stamps itself as a clear sea basin, of which more than half is at a depth of 2,000 meters and approximately one quarter has a depth of 3,000 meters. The descent of the sea floor to a depth of 2,000 meters is far more

abrupt from the Asiatic continent than from the east. After the Korean Strait in the south and the Tatar Strait to the north the sea floor rises gradually. 133

If the Sea of Japan presents its own sea basin, it also displays surface current conditions characteristic of a peripheral sea. The warm Kuroshio Current/Japan Current/, originating at tropical latitudes, flows from the south to contact the Sea of Japan at the Korea Strait. Designated by the Japanese as the Tsushima Current, this stream of warm water divides itself at the Korea Strait into two arms. The eastern, which is wider and flows more rapidly, flows in a northerly direction along the coastline of the Japanese islands, while the weaker western branch flows in a northerly direction somewhat parallel to the Korean coast. The latter soon comes up against cold waters due to a water current coming from the north along the coast. In part the waters mix; however, for the most part, the waters of the western branch of the Tsushima Current are pushed eastward from the coast, gradually turning east and then southeast, and they unite with the still relatively warm general stream of the former Tsushuma Current which is on its way back and which ends in a circular current moving counter-clockwise.

The warm mainstream of the Tsushima Current, which stretches northward along the coast of the Japanese islands, gradually loses its strength. Part of its current flows out through the Tsugaru Strait; a further part is later lost in the north through La Perouse Strait into the Sea of Okhotsk, while the remaining current presses further north in the direction of the Tatar Strait. Emerging from La Perouse Strait out into the Sea of Okhotsk, it now strikes a cold current. At first the warm current is able to deluge the cold current, and is able to advance as far as the southwest coast of Sakhalin where its tempering influence is still felt. But then it weakens at the coast /91 Sketch Map of the Sea of Japan:/ and is turned farther north. The shallow depths of the Tatar Strait act as a barrier and soon put a halt to any further northward movement, so that the relatively warm current turns west and then southwest, in which process it pulls cold water along, which, because of its higher salt content, can be identified as upwelling water /Auftriebwasser/. The cold water current runs along the coast until /92/ it reaches Korea. It reaches Vladivostok, where it contributes significantly to the tempering of the water and air temperatures there, and then it moves along the coast of Korea toward the south, where it encounters the above-mentioned western branch of the Tsushima

Sketch Map of the Sea of Japan:



Depth and Current Conditions

——→ warm current
- - - → cold current

133 Current and there finds its end. On the way, the cold water current is strengthened by upwelling water, which is noticeable along the coast of the Sikhote-Alin', especially south of Ol'ga Bay, and which is distinguished not only by its greater coolness but also by its higher salt content. Where the cold water current encounters the warm current, a cold water front forms which, however, does not always remain in the same place in the course of the year. In winter the cold current appears to attain a greater strength and moves the cold front to the south, while in summer the cold front again withdraws to the north. (116)

116. Lautensach, H., Korea, (Leipzig, 1945), p. 118.

132 Because of the fact that the Sea of Japan extends so far from
133 north to south--the Tatar Strait lies somewhat below the 50th latitude and the Korea Strait below the 35th latitude--the surface water temperatures in the various parts of the sea and in the course of the year are very different. In the area of the Korea Strait the surface water temperature varies between 26° and 14°, in the region of the Tsugaru Strait it varies between 24° and 5°, in La Perouse Strait it varies between 22° and 1.4°, and in the northern part of the Tatar Strait it varies between 17° and -2°.

The temperature of the water sinks very rapidly as the water gets deeper. In July, 1928, in the middle of the sea the temperature at the surface was 20.4°, at a depth of 50 meters it was still 3.4°, and at a depth of 100 meters it was only 0.8°. The last-mentioned temperature remains at depths of 500 meters and more. Nowhere, even at greater depths, has a lower temperature been determined. (205)

205. Suslov, S.P. Fizicheskaia geografiia SSSR /Physical Geography of the USSR/. Moscow-Leningrad, 1947.

133 In winter the Tatar Strait is regularly closed by a solid ice sheet to approximately 50° N. Otherwise such an ice covering is formed only in the bays of the Soviet Russian Maritime Krai; this applies, however, to bays as far as Vladivostok, whose harbor can be kept open during the three winter months only with the help of ice-breakers. Floating ice, however, can be encountered regularly every winter in the northern part of the Sea of Japan as far as a line approximately from the middle of the island of Hokkaido to the Korea Bay.

Tides are noticeable in all the Sea of Japan, but not in great measure. The tidal wave enters the Sea of Japan through the broad Korea Strait but then spreads so quickly that it is observed at practically the same time on all coasts. The range between high and low tide decreases the farther away one gets from the Korea Strait. Thus in Pusan it is still 2.10 meters, at the mouth of the Tumen it is only 0.30 meters, but it rises in the narrows of the Tatar Strait to as much as 2.70 meters.

The current conditions and the various water temperatures affect the neighboring coastal regions in a remarkable fashion. On the mainland side the winters are under continental influence /93/ and bring a high degree of coldness. This applies especially to the Soviet Russian mainland coast and to Sakhalin. As a consequence the appearance of ice off the mainland coast extends farther to the south than it does in the eastern part of the Sea of Japan. Even in late spring the cold current brings in floating ice floes along the coast toward the south. In summer the cold coastal current along with the predominant east and southeast winds temper the air temperatures of the mainland coast. It is the source of the fog forming along the entire coast, especially during the summer; for the thickness and duration of the fog are greater in relation to the temperature contrast between the air and the surface of the water. This applies especially to the sea areas off the Soviet Russian coast, which with southeast winds predominanting are enveloped in thick, cool fogs.

The salt content of the Sea of Japan is greatest in the south where water with a salt content of 34.56 percent enters through the Korea Strait; the salt content is smallest in the Tatar Strait, where it amounts to 31.96 percent. In winter the salt content of the surface water rises and can reach up to 35.0 percent. The reason for this can be found in the slightness of the winter rainfall and in the decreased inflow of fresh water from the rivers.

A distinguishing mark of the Sea of Japan, important for sea transportation, is the frequent appearance of storms, which are especially numerous in spring and fall. They appear in the train of cyclones, which come from the mainland or the East China Sea and make use of the Sea of Japan as a route to the northeast. The number of these storms is not so great in the summer as in the transitional seasons, but they are of greater violence, especially in late summer when equatorial whirlwinds press into this region as typhoons and develop great wind velocities. In winter, on the other hand, the con-

[I.e. in the Sea of Japan--Analyst]

132 tinental cold air front forces the paths of the cyclones toward the south and southeast, and accordingly their activity is limited more to Korea and the eastern part of the Sea of Japan and scarcely touches the Soviet areas.

The World of Plants

137 The vegetation, too, can be divided according to the climatic provinces. However, here the vegetation has not shaped special formations of its own, but rather has a general transitional character. In Transbaykal the Siberian taiga turns into the Mongolian steppe vegetation, and on the Amur and Ussuri typically Manchurian plants extend beyond these rivers and intermix with representatives of the Siberian evergreen woods. Only in the region of the coastal climate have some special forms of the plant world developed which are peculiar to this region alone.

/94/ In Transbaykal the steppe vegetation penetrates very far toward the north. Often it appears in islands in the middle of closed forest regions. In the valley of the Upper Angara we find feather grass (Stipa pennata) and fescue grass /Schafschwingel/ (Festuca ovina) as typical representatives on the southern slopes, while the northern slopes are covered with thick larch and pine forests. In the valley of the Barguzin feather grass and artemisia steppes are spread out not far from one another. Also the well-known Nerchinsk Steppe, better designated, however, as a forest steppe, is an island closed off in itself and approximately 100 kilometers long and just as wide. In general the character of a meadow steppe predominantes here, but in lower areas salt ground appears with numerous xerophilous plants. The steppe, however, attains its greatest area, here closed off, in the southeast between the upper courses of the Argun and of the Onon. This Argun Steppe begins in the north as a meadow steppe and turns toward the south into an artemisia steppe, which already gives the impression of being a semiwasteland. West of the Onon the pure steppe appears only in spots, and only in the Selenga area does it have a significant size. Here, between Novo-Selenginsk and Troitskosavsk /now: Kyakhta/ lie alluvial sands, which are often laid bare and which show an almost wasteland character with wandering dunes /Wanderdünen/ and inlaid Salzpfanne /salt pans/.

The ground relief is of decisive importance in determining the extent of the forms of vegetation in detail. The steppes as a rule re-

main in the valley areas at a height from 500 to 900 meters. Adjoining them are the forested steppes up to 1,200 meters, consisting predominantly of birches. Here thick forests with evergreen trees begin. In south Transbaykal the upper timber line lies at a height of 1,700 meters to 1,900 meters; in the raw north, however, it lies significantly lower. There the forest often ends already at 1,200 meters; but, on the other hand, it goes down farther, and on the northern slopes it penetrates to the banks of Lake Baykal.

The forests west of the Yablonovyy Ridge consist of the same types of trees as appear in all of east Siberia. The Daur larch /Daurische Lärche/ (Larix dahurica) is the principal tree. Associated with it is the Siberian cedar or Siberian stonepine (Pinus cembra), which in higher places even exceeds the larch. The Daur larch appears also with the pine (Pinus silvestris) on drier, sandy ground. The Siberian spruce (Picea obovata) and the Siberian fir (Abies sibirica), on the other hand, appear more rarely. The Siberian larch appears only in a small area west of the Selenga. How much the vegetation is influenced by the height of the land is shown by the 2,508-meter high Sokhondo just on the Mongolian border. Here the forests begin at a height of 1,200 meters and extend up to 1,900 meters, and consist of the same types of Siberian trees mentioned above. In one thing, however, the Transbaykal forests differ from the Siberian: in the thicker underbrush, which consists principally of rhododendron and bush birch /Strauchbirke/ (Betula Middendorffi).

/95/ Above the forest line a peculiar bent wood vegetation /Krummholzvegetation/ sets in, which is extremely characteristic not only of these high areas in Transbaykal but also of all the other regions. Principally represented here are the dwarf pine (Pinus pumila), the dwarf birch (Betula Middendorfii morphe alpina), the Cassiope (Cassiope ericoides), rhododendron (R. chrysanthum), and a dwarf form of the Daur larch (Larix Daurica var. pumila). This bush formation, which can be as high as 3 meters, is so overgrown and matted that it seems impossible to penetrate it.

An Alpine meadow region is lacking in Transbaykal. Mosses and lichens go from the bush vegetation as a rule right to the bare stone of the Gol'tsy.

East of the Yablonovyy Ridge the forests generally retain the same character as in the west; however, here the first deciduous trees appear as harbingers of the more temperate zones of east Asia: thus oaks, elms, and apple trees appear here. For the Russians, who missed

137 deciduous trees on the long way to the east from the Urals and who saw them again here for the first time, this sight may have been a true joy: accordingly they named the mountain ridge on which they first encountered wild apple trees, the Yablonovyy Khrebet, i.e., "Apple Mountain Range."

The forests of the real Far Eastern regions consist of three main elements: the east Siberian, the Okhotsk, and the Manchurian. The east Siberian element is represented by Daur larch. The Ayan spruce /Ajan-Fichte/ (Picea ajanensis), the stone birch /Steinbirke/ (Betyla ermani), and the fir with the white bark (Abies nephrolepis) are characteristic of the Okhotsk type of forest. This type of forest is limited to the damp-cool coastal region. In the basins of the middle Amur and of the Ussuri and in the southern Sikhote-Alin' we find the third type, the Manchurian, which is distinguished by a wealth of deciduous trees--oaks, maples, ashes, lindens, and others--and by an abundance of types of trees.

The mild climate of the Amur-Ussuri region already allows the broad-leafed deciduous trees to come into the foreground in the vegetation picture; indeed, in wide sections, these trees even attain predominance.

From the northern arc of the Amur, the east Siberian taiga entering here gradually changes its face toward the east, and becomes a mixed forest in which, at Blagoveshchensk, deciduous trees already outnumber the others. The oak (Quercus mongolica) should be mentioned as a characteristic tree, and soon lindens (Tilia amurensis and Tilia mandschurica) accompany it, as well as maples (Acer ginnala), and numerous other deciduous trees. Also a similar change takes place from the Stanovoy Ridge south to the Amur. The pine (Pinus silvestris), the most loyal tree of north Eurasia, which asserts itself from Europe to the Sea of Okhotsk, despite all differences in climate, finds its outer limit on the lower Amur. Likewise /96/ the Siberian spruce (Picea excelsa obovata), a variety of the European Picea excelsa, finds its extreme eastern limit here.

Characteristic of the deciduous forest areas of the Amur country is the Lespedeza (Lespedeza bicolor), which often covers all the ground in clearings or in burned-off areas. Although not as nourishing as lucerne /alfalfa/, it nevertheless constitutes an excellent food for livestock. On the Amur and especially in the Zeya-Bureya Plain there are extensive grass lands, which are also designated the "Amur Prairies." Near the rivers blue grass (Calamagrostis Langsdorffi) pre-

dominates. However, steppe elements also appear on these plains,--137
steppe animals as well as plants--for example the typical steppe grass Stipa capillata and the Nager Suslik (Citellus Eversmanni jacutensis). In swampy river valleys, especially on the Bureya, there are swamp forests consisting of poplars (Populus suaveolens), lindens (Tilia cordata amurensis), the Manchurian nut tree (Juglans mandschurica), and others. These flood forests are distinguished by an extraordinarily thick and peculiar underwood with numerous climbing plants. Of these, special mention should be made of the mighty Manchurian wine grape (Vitis amurensis) which grows in the Amur area as far as 51° North and as far as the Zeya on the west. The stem of this plant is up to 15 centimeters thick; its sweet black grapes are collected by the population and used to make wine or marmalade.

In the Ussuri country the vegetation puts on a completely Manchurian face. In contrast to the Siberian taiga which has only a few types of trees, here the extraordinary multiplicity of the plant world surprises the explorer. Komarov points to 64 types of trees, 79 types of bushes and 15 types of lianas here. It may be of great significance that these regions never experienceed an Ice Age, and accordingly representatives of Tertiary flora have been able to remain until today. In the Ussuri depression and in the valleys of the southern Sikhote-Alin' deciduous trees completely dominate the field. In the south, Korean and Japanese types of trees join with the Manchurian types. In addition to the deciduous trees already mentioned, the following can be mentioned as characteristic: the following types of maple--Acer barbinerve, Acer mono, Acer tegmentosum, Acer ukurunduense; the alders--Alnus fruticosa, Alnus japonica, Alnus incana; the pear trees--Pirus ussuriensis and Pirus sinensis; the mountain-ashes--Sorbus aucuparia, Sorbus sambucifolia; and the Amur elder, Syringa amurensis. Worthy of mention are the east Asiatic cork tree (Phellodendron amurensis), with its peculiarly soft bark, the white walnut (Aralia mandschurica), and the palm-like dimorphic plant (Dimorphantus mandschuricus).

In the higher regions of the Sikhote-Alin', on the other hand, coniferous trees again step into the foreground. The Daur larch appears everywhere. Appearing anew are the Manchurian cedar (Pinus mandschurica), which is concentrated more on the coasts, the spruce (Pinus funebris), and, on the east coast, the Olga larch (Larix Olgae). The 20-meter tall yew tree also /97/ appears occasionally (Taxus cuspidata). Junipers are to be found everywhere, and in higher regions they often cover whole areas with a creeping type of juniper (Juniperus

137 daurica). In the Sikhote-Alin' the three types of Far Eastern forests often meet in a tight area. The Manchurian element fills the valleys and slopes but never extends beyond 750 to 1,000 meters above sea level; following this element is the Okhotsk taiga, and following this in turn is the Siberian type with the Larix dahurica /Daur larch/. The heavy rainfall and the great warmth in the southern part of the Ussuri region give the water plants especially favorable opportunities to develop. Therefore there flourishes here also the lotus flower (Nelumbo speciosa), the Brasenia (Brasenia purpurea), which also spread into Europe in the Pre-Quarternary period, the water nut /Wassernuss/ (Trapa incisa), and in some places the water rose /Wasserrose/, Euryale fevox, whose great leaves attain a diameter of up to 130 centimeters.

In contrast to the Amur-Ussuri country, the vegetation of the coastal area shows a different, more sharply drawn picture. The hardy and perennial Daur larch, which penetrates to the Polar tree line in northeast Siberia and extends toward the south as far as into the Sikhote-Alin', avoids in a remarkable fashion the sea coast of the east with its damp and cool winds and appears first at some distance from the coast. The entire coastal country, therefore, is taken up by a special type of conifer forest, the Okhotsk taiga. There are mostly spruces, firs, and birches, which here grow thickly on the slopes to the sea coast. The typical trees are the types already mentioned: Ayan spruces, stone birches /Steinbirke/, firs with white bark. The Okhotsk taiga spreads along the coast of the sea by the same name, but it also takes in the area around the mouth of the Amur, and also dominates the part of the northern Sikhote-Alin' inclined toward the coast. It is, therefore, especially suited to the raw coastal climate. The mighty sea winds, however, do not permit a continuous extention of this taiga. Thus it covers above all the slopes and valleys, where it develops an extraordinarily thick growth which is difficult to penetrate. Toward the mountain ridges this taiga gives way very quickly to the usual bent wood /Krummholz/ vegetation, and adjoining this in turn is a moss and lichen formation, which covers the bulk of the ridges exposed to the winds and serves as an excellent summer meadow for the reindeer breeders. In the Dzhugdzhur almost all the passes which lead from the coast into the interior lie above the timber line, and this hampers their usefulness, especially in winter.

Kamchatka's vegetation picture corresponds generally to the Okhotsk type but it is changed somewhat by the milder climate and the relief. The stone birch /Steinbirke/ (Betula ermani) is the typical

tree here, being completely dominant on all the slopes inclined toward the sea--both the Sea of Okhotsk and the Bering Sea; accordingly there is an overwhelming impression of a forest of deciduous trees. Only in the interior, where the continental climatic traits predominate, is the /98/ east Siberian taiga with the Daur larch preserved under the protection of the two mountain ridges. The higher mountains projecting beyond the tree line are again covered with a bent wood vegetation /Krummholzvegetation/, which is especially thick on Kamchatka and which often makes wide areas almost impenetrable. Along the west coast a tundra-like moss steppe has developed, which covers the northern part of the peninsula across from west to east. In contrast to the conditions which become more unfavorable toward the north, the vegetation increases toward the south both in abundance of growth and in types. Worthy of note is the appearance here of the Japanese birch (Betula japonica) and of numerous higher types of grass, such as Heracleum tanatum and Heracleum dulce, and the wide diffusion of the bear root /Bärenwurzel/ (Angelica ursina), which becomes up to three meters tall. The appearance of extended forest meadows in the southern part of the peninsula has also caused the introduction of cattle breeding. 137

The regions of the extreme northeast can generally be designated as tundra or forest tundra.

The World of Animals

Following the pattern of the natural vegetation set-up, the animal world has the same juxtaposition of the most varying forms. East Asiatic and Inner Asiatic types join with the Siberian types. In the land once famous for its wealth of wild animals, an unbelievably rapacious economy /Raubwirtschaft/ has either destroyed the useful wild animals or driven them into inaccessible regions. Nevertheless, the regions still little touched by man are extraordinarily great, and there the animals have been able to preserve themselves in all freedom and in great numbers. 136

Numerous rodents, which are especially characteristic of steppe regions, are native to the forest steppes and steppes of Transbaykal: for example, the "suslik," the ground squirrel (Citellus Eversmanni and Citellus dauricus); the "tarbagan," a type of woodchuck (Arctomys bobak), the earth hare or jumping hare /Erd- oder Springhase/ (Alactaga saltator mongolica), and others. Larger steppe animals,

136 however, either are lacking or have been exterminated. The still untouched forest areas both in Transbaykal and in other regions, on the other hand, are very much richer in animals. Two real northern animals--the reindeer /Ren/ and the elk--live as far down as the northern Sikhote-Alin'. The reindeer is kept by the native Tungus as a domestic animal, but the wild reindeer can also still be found in large numbers in the north. The elk (Alces machlis) prefers swampy regions with deciduous forests and on its long wanderings penetrates as far south as 46° latitude. In contrast to its northern brother, the Ussuri elk does not have palmate antlers /Schaufeln/, but rather only stick-like antlers /Stangengeweih/, but it is just as big and primeval as the northern elk. The stag is hunted the most; the stags hunted here are the large "isiubr" (Cervus canadensis Luhdorfi) and the smaller spotted stag /Fleckenhirsch/ (Cervus Dybowskii). The latter, which belongs to the Sika stags /Sikahirschen/, is easily tamed and is therefore to be found in most European zoos. With /99/ the "isiubr" the Panten /spikes?/, the still unhardened antlers, are especially valuable and are exported to China as a folk medicine which brings good prices. Reckless hunting has driven the "isiubr" into the most remote regions. Both types of stag are bred on farms today. Widely diffused are the roe and, in mountain regions, the wild sheep, which appears in various types: Ovis ammon monglica in Transbaykal; Ovis jubata and Ovis Middendorffiion the Amur and Uda; Ovis storcki and Ovis alleni on the Sea of Okhotsk; and Ovis nivicola on Kamchatka. Beasts of prey are very numerous in the taiga. The animal characteristic of the taiga is the bear. He plays a big role in the mythology of the natives and is designated respectfully as "the lord." In addition to the usual brown bear, there is also a small black type and as well as the Tibetan white-breasted collar bear /Kragenbär/ (Ursus tibetanus), which is considered to be especially evil. In addition the following should be mentioned here: the wolf, the red wolf (Cuon alpinus), the glutton (Gulo luscus), the lynx, the wild cat (Felis euptilura), and various types of foxes. The red wolf is a jackal-like wild dog and as a rule is to be encountered wherever the wild sheep appears.

Various valuable fur animals are much hunted and therefore in many regions almost completely exterminated; examples of these are the sable (Martes Zibellina), the marten (Martes flavigula borealis), the ermine (Mustella erminis), the fish otter (Lutra vulgaris), the squirrel (Scurius vulgaris), and the rarer flying squirrel (Sciuropterus volans). Most of these animals have withdrawn to the remote parts

of the forest regions. 136

In the Ussuri region and in the Sikhote-Alin', because of the the southern location, still other animals worthy of mention appear in addition to the inhabitants of the forest regions already mentioned. Characteristic animals here are the Amur tiger (Felis tigris longipilis), the wild boar (Sus leucomystax continentalis), and the peculiar marten dog /Marderhund/, "enot," (Nyctereutes procynoides). The wild boars, for whom the oak forests provide excellent nourishment, dwell in great numbers, mostly in herds, in swampy regions with forests of deciduous trees or mixed forests. Following them is the tiger who is larger and has a more valuable fur than the Bengal king tiger /Königstiger/. He is, however, to be encountered only very rarely and only in mountain areas off from the beaten track. The marten dog is a dangerous beast of prey, who hunts roes and often even penetrates into the dwellings of men.

The world of birds is represented in large numbers. While tundra birds, such as the partridge (Lagopus mutus), nest on the mountains projecting beyond the tree line, in the Ussuri region we find numerous southern forms, such as the pelican, white heron, and the Cormorant. In the forests mountain cocks, black grouse, and numerous woodcocks are to be encountered, and in clearer regions partidges, quail, and also pheasants are found. The pheasants often migrate in large numbers from Manchuria into the Amur and Ussuri regions. Swans, wild geese, ducks, divers /Taucher/, and moor hens /100/ appear in very large numbers on all lakes and swamps. Khanka Lake is a real paradise for birds.

Amphibians and reptiles are to be encountered everywhere; they are especially numerous in the warmer Ussuri country. Among the snakes special mention should be made of the Natter Coluber Schrenckii, which becomes up to 1.5 meters long and 6 centimeters thick, and the especially poisonous Ancistrodon Blomhoffi.

The insect world should not go without mention. In the summer immense swarms of gnats develop which make life a real plague for both man and beast. Especially irritable are the stings of small stinging gnats, which the Russians designate generally as "gnus," i.e., vermin.

Of greater economic importance is the wealth of fish in all parts of the sea near the coasts. Every year great swarms of herring appear in the south, coming from the Sea of Japan. The area around the mouth of the Amur is distinguished by the regular appearance of

136 great schools of salmon, which come up the river to spawn. Most numerous are two types of salmon--the Keta salmon (Oncorhunchus Keta Walb.) and the humpback salmon called the gorbusha by the Russians. The Sea of Okhotsk has in addition herring, cod, tuna fish, and mackerel. The coastal area of Kamchatka have the riches supply of crabs in the world. On the eastern side of the peninsula it is principally Pacific types of salmon that are caught: the red salmon (Oncorhunchus nerka Walb.), the silver salmon (Oncorhunchus Kisutch Walb.), and the king salmon (Oncorhunchus tschawytscha Walb.). Originally the Bering Sea was extraordinarily rich in sea animals, expecially whales and seals, but these have been heavily decimated by man.

/101/ THE POPULATION

Prehistory and Colonization

171 Various discoveries of New Stone Age implements prove that
172 the Amur and Ussuri regions were already occupied by man at the turning point between Diluvium and Alluvium /the Diluvial and Alluvial Ages?/. Among the tools found are simple hatchets, chisels, spearheads, scrapers, and knives, hammered out of stone; but also known are polished tools such as those of the Neolithic Age in north Germany. Additional findings of an advanced, more recent Stone Age show string and ribbon pottery, similar to that of Europe's culture at the same time. (181)

181. A. Schultz, Das Ussuri-Land /The Ussuri Region/ (Königsberg, Prussia, 1932).

175 We derive our first historical information on these same regions from the old Chinese history books, which go back to 2500 B.C. According to these sources, in the land of the Amur and Ussuri there lived the Sushe in the east, the Huei (also called Hueimai) in the middle of Manchuria, and the Tonghu /Dunghu/ in the west. All three peoples, who were subdivided into numerous smaller tribes, are mentioned in the same areas even as late as the second century B.C. According to present-day research, the Sushe and the Huei are to be interpreted as Tungus, while the Tonghu /Dunghu/ are regarded as pre-Mongols. Discoveries of Stone Age culture of the latter people extend over all of eastern Mongolia. The Sushe and Huei lived predominantly in forested areas, while the Tonghu preferred the open plains. Thus, even

in the oldest periods the division into the forest peoples of the Tungus and the steppe people of the Mongols was apparent. /75

From their original home, which we must regard as northern Manchuria and the Ussuri region, the Tungus then spread over the larger part of eastern and central Siberia, and in the process they partly intermixed with the Paleoasiatic peoples living north of them and partly pushed these peoples farther and farther to the north and northeast. In this the Tungus tribes were able to adjust themselves with extraordinary adroitness to greatly varying types of terrain and to very different living conditions, and thus to extract from nature the best possible for their own culture. In the course of this development they divided into various branches so that today the Horse, Reindeer, and Dog Tungus can be differentiated according to culture. The largest part of the Tungus live today in the region of two eastern tributaries of the Yenisey, the Upper and the Lower Tunguska, which got their names from the Tungus; and live scattered widely /102/ over the entire far eastern region, with the exception of the extreme northeast, which remains preserved as the retreat area of the Paleoasiatics. The pressure of the Tungus to the north was also of use to the retreating peoples, for these peoples took over many cultural attainments from the Tungus. It can even be assumed that various Paleoasiatic peoples learned reindeer culture first from the Tungus.

Of the Paleoasiatic peoples only the Gilyak have retained their old habitat on the lower Amur and in the region of the Ude because of the protection of the swamps, just as the Ainu have remained on Sakhalin. The main section of the Paleoasiatics found refuge in the extreme northeast.

In the expansion of the Tungus over all of eastern Siberia many tribes dissolved into smaller tribes and groups. There was, of course, room enough for that. In their own homeland, however, cohesion was better preserved. In this region they had settled in large measure in the area left of the Amur; this applies especially to the Daur. Here, on the plains of the Zeya and Bureya, the Russians, as their first reports indicate, found a rather thickly-settled area occupied by a population which pursued agriculture and cattle raising. The Tungus peoples who were settled here left this land in the period after the rapacious intrusion of the Russians and withdrew to the quieter, right side of the Amur, or were later forcibly pushed there by the Russians, so that at present there are no Tungus settlers at all to be found in the real Amur country. The Amur as far as Khabarovsk

175 divides the Russians on the left side of the river from the Tungus and the Chinese on the other side. The Chinese had immigrated there later in large numbers.

172 In Transbaykal traces have been found which prove that man already occupied this country in the Paleolithic Age. Nevertheless these traces are very obscure and are still not interpreted. Much clearer information is given by the Neolithic findings of the life and economy of man there. At that time the land was occupied by sedentary fishermen and hunters, who in the south also did a slight amount of cattle raising. Their settlements lay primarily on rivers and lakes. For food they also collected edible plants, roots, mushrooms, berries, and "cedar nuts" (fruit of the Siberian stone pine). They already knew how to make clothes from hemp nettle fabrics.

175 The first historical information, according to Chinese sources, attests that in the third and second centuries B.C. this land was occupied by the Huns, who are described as semi-nomadic, and who pursued hunting and agriculture in addition to cattle raising. They were known through the trade which they conducted with the Chinese. Around 100 B.C. the land came under Chinese rule, though the borders are still very unclear. Other foreign rulers from the south replaced the Chinese, and so the land remained until about 900 A.D. with /103/ various peoples coming and going. Among these the Uigur are mentioned in particular. In the epoch of Chinggis /Genghis/ Khan, in the twelfth and thirteenth centuries, there lived here the Merkit, the Kereit, and Oirat, /Oirot/, among others, who are designated collectively as "forest peoples." They became involved in battles with the peoples of Chinggis /Genghis/ Khan, were defeated, and had to submit to his rule; this, however, was scarcely noticeable, since no consideration was given these rough wooded areas lying on the edge of this immense empire. At this time the Buryat tribes were formed from the various peoples, part of whom were seeking protection, and from the indigenous population Giving way to the pressure from the southern steppes, a part of these Buryat tribes withdrew to the western side of Lake Baykal. In so doing they pressed the Turkish Yakut and the Tungus peoples to the north. The Yakut withdrew to the region of the middle and lower Lena, a region composed in part of steppes, and pushed their residence up to as far as the Paleoasiatics residing in the north. Thus the Yakut pushed forward a broad wedge into the Tungus area of expansion.

In the fourteenth century the residence of the Buryat extended

from the Oka, a left tributary of the Angara, to the Onon and Argun steppes in the east. At that time they already knew how to extract salt and to process iron. They were known as the trade middlemen between the Tungus hunting peoples and the Chinese. From the Tungus they acquired valuable furs (sable) by barter in exchange for food, especially millet, and these furs they exchanged with Chinese traders for silver and goods from China. In this period, under the leadership of the "Noyone," the tribal divisions had been transformed into fixed, almost state-like organizations, which were in a position to give successful resistance to the Cossacks pressing in in the seventeenth century. The first information which the Cossacks received of Transbaykal described the land as having a wealth of valuable furs and silver. 175

Even the Irkutsk Buryat accomplished vigorous resistance, and in many instances smaller Cossack divisions were defeated or annihiliated. In the course of battles lasting years the Cossacks succeeded in getting a foothold in Transbaykal in individual bases, which were built up into small fortresses. In 1646 Verkhne Angarsk was founded at the mouth of the Upper Angara on Lake Baykal, in 1648 Barguzin was founded, Nerchinsk in 1654, Selenginsk /now: Novo-Seleginsk/ in 1665, Verkhne Udinsk (Ulan-Ude) in 1666. Nevertheless the Buryat did not submit so easily to the will of the Cossacks, whose power did not extend far beyond the bases. Twice great uprisings broke out, and for months the bases were cut off from all contact and exposed to a severe siege. Smaller posts were pillaged, the personnel slaughtered, and the buildings destroyed. However, in the long run the Buryat could not hold out against the firearms and the better organization of the Russians. Many retreated into Mongolia, but from there they again and again /104/ made attacks. Only after the Treaty of Nerchinsk in 1639 did peace return to the land. With that colonization by the Russians began.

The Old Peoples

Three groups can be distinguished among the old peoples presently occupying Transbaykal and the far eastern region: the Mongols, the Tungus, and the Paleoasiatics. The Buryat are the sole representative of the Mongols in Baykal, while the Tungus and Paleoasiatic peoples are distributed over the entire far eastern region. 101 144

The Buryat occupy the region west and east of Lake Baykal.

The Buryat occupy the region west and east of Lake Baykal.

101 563 Their entire number in 1939 was around 280,000. They are divided into the Irkutsk and the Transbaykal Buryat. The former, numbering approximately 100,000, live in the Irkutsk region and enjoy cultural autonomy in the Ust'-Orda Krai. The Transbaykal Buryat are united in the Buryat-Mongol ASSR. Nevertheless, they constitute only 43.8 percent of the population of this ASSR (1941), and the Russians are in the majority. Buryat live in large numbers also in the Chita region, especially in the Aginsk /Aga/ Steppe south of Chita, where they have their own administration in a national district. The Buryat are regarded as a branch of the Mongols and are contrasted with the Khalkha 563 Mongols in Outer Mongolia. As history shows, a part of this people early became sedentary, especially west of Lake Baykal. In the steppes of Transbaykal, however, the major part of the people remained typical Mongolian nomads until the very recent past. Gmelin, who traveled the land in the eighteenth century, reports that numerous Buryat had herds of thousands of sheep and hundreds of reindeer and horses. Georgi, who spent time in Transbaykal in the same century, writes that individual Daur Buryat own up to 1,000 camel, 4,000 horses, 2,000 to 3,000 reindeer, 8,000 sheep, and hundreds of goats. Even if these numbers may be exaggerated, they show nevertheless that animal breeding was the basis of the economic life of the Buryat. After the invasion of the Russians they were able to adjust in advantageous fashion to the changed situation, and a large part of the people went over to agriculture. There remained for them simply no other way, since the Russian settlers took the best pasture lands from them and transformed them into tilled land. Pressed into unfavorable areas, they proceeded with remarkable energy and without European guidance to create their own tilled land through artificial irrigation, especially in the river region of the Selenga and in the Barguzin Valley. However, in the southern steppes of Transbaykal they have /105/ retained their original occupation, cattle raising, in which they have made extraordinary accomplishments. The Buryat Republic belongs today 563 to the most important cattle surplus areas in the Soviet Union. Many 177 interesting features of their own folk life have been lost through the introduction of kolkhoz economy and modern cattle-raising methods. Thus the felt yurts occupied of old have simply disappeared and have been replaced by small, practical wooden houses. However, there are still regions in Transbaykal where the Buryat continue their nomadic life unhindered, even though everywhere the influence of Russiandom grows stronger and stronger. At most the Irkutsk Buryat and the

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts.

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds.

Goldi, Olcha, Orochi

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563 in the winter dog sleds. The position of the women is difficult.
[342] Polygamy is permitted. Bride purchase remains today. The Goldi live in small settlements of two to twenty houses, which are built out of mud like Chinese fang-tze /Fansen/. Many of them are half sunk in the earth. In the summer, however, the Goldi gladly leaves his fixed house and moves into his original domed tent, which is covered with birchbark or bast mats. In more recent times many Goldi have taken up the cultivation of vegetables, and they also breed pigs and chickens. The Samaghir, who live on the Gorin, a left tributary of the lower Amur, can be named as relatives of the Goldi. Their culture corresponds to that of the Goldi, but many expressions in their language indicate that they formerly were reindeer breeders. At present they devote themselves exclusively to fishing and hunting. Further downstream live the Olcha, who have also spread to the coast of the Tatar Strait and to Sakhalin. On Sakhalin they call themselves the Orok. The Olcha are also hunters, fishermen, and dog breeders. However, in contrast to the semi-nomadic Goldi, they are sedentary, and they all pursue agriculture in slight measure. Various signs indicate that they also were once reindeer breeders as their relatives, the Orok on Sakhalin, still are today. The total number of Olcha and Orok can scarcely exceed 2,000. More numerous--around 2,500--are the Orochi, who are also often called Udekhe (after the river Udekhe). Split up into numerous small groups, they live in the valleys of the middle and southern Sikhote-Alin' and also on the side toward the sea and the Ussuri. Many of
[179] them, especially in the south, are under Chinese influence and speak, reside, and live in a Chinese fashion. However, in the heart of Sikhote-Alin' they have remained rather pure and still live as true forest people, as Arseniev described them, and they show pronounced
[141] Tungus traits. The men on the average are 1.60 meters tall, and the women 1.45 meters. Their small hands and feet are striking.
[301] Like the Goldi they once wore ear and nose rings, and this custom still exists among the Orochi-Udekhe, although only among the
[342] women. They still live in pointed tents in contrast to the domed tents of the Goldi, in which the tent poles are bent together to form a dome and which recall, in their form, the yurts of the Mongols. On long trips, however, the Orochi did not take his tent along, since the tent was too burdensome for him; instead, while he was on his way, he built a simple protective tent out of twigs. The pure Orochi is only a hunter and fisherman. The social order of this people is

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

101 563 [621] [583] [776] [763] [769]

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

[197] [281] 101 563 342

Gilyak, chukchee

101 earth dwellings must have been the original winter dwelling of the
563 Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin
[342] live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is
[171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic
[493] people. The sole domestic animal is the dog. The Gilyak dog sled, the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their
[262] chest but with their neck. The main food of the Gilyak is fish dried in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too.
[141] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro-
[583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life,
[776] worship of the bear plays a large role: this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads,
[342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

Chukchee, Koryak 101 563

material life of the Maritime Chukchee, who number approximately 3,000, is completely the same as that of the Eskimo. They use the same leather boat, the kayak, and the metal harpoon with a float made of an inflated sealskin, and many other things. On the other hand the Reindeer Chuckchee are completely nomadic and have shown themselves to be extraordinarily good reindeer breeders. They number only about 9,000, but they have around half a million reindeer. But still reindeer breeding does not appear to have been their original sphere, for many idioms as well as marks of their dwelling indicate that they also once lived on the banks of the sea; reindeer breeding was perhaps taken over later from the neighboring Tungus. Thus, /109/ as Bogoras (37) reports, the interior of the sleeping section of

37. V. Bogoras. The Chukchee (New York, 1904/1908).

the tent is designated as the "skin of the white bear" by the Reindeer Chukchee, even though at present not bear skin but rather only reindeer skin serves as walls and bed covering both for the Reindeer and the Maritime Chukchee. Peculiar is the belief of the Chukchee that a life after death is attained only by a person who has had a violent death, and it was not long ago that, out of a kind of sympathy, they killed their own people who were weakened by age or unfit for life; this custom is also reported among the North American Eskimo. The Chukchee, Koryak, and Kamchadal generally show many traits related to those of the Indians of northwest America, and it is for this reason that Bogoras classifies as "Americanoid" the entire group of Paleoasiatics, including the Gilyak mentioned earlier.1/ Myths and sagas coincide both in content and in form, often down to details, with those of the northwest American Indians. Accordingly the assumption should not be dismissed that the Chukchee, Koryak, and Kamchadal once were immediate neighbors of the Indians, and that only at a later time did the Eskimo shove in between them.

The Koryak, now also designated as Nymylan, occupy the northern half of Kamchatka and the adjacent continent. Their number is estimated at around 10,000. Like the Chukchee they are divided in half into the Maritime Koryak and the Reindeer Koryak. The former are sedentary and above all fishermen, and their life approaches in significant measure that of the Eskimo. They also hunt sea animals such as the walrus, the seal, and occasionally also the whale. They are already extensively absorbed into the Russian culture and live

1/ [Cf. cat. 116, pp. 118-119 -- Analyst]

Koryak, Kamchadal

101
563 together in villages in crudely constructed wooden houses. The leather boats, which they still use for hunting and fishing, are disappearing more and more. The Reindeer Koryak have also already grown far from their original culture. They are primarily reindeer breeders and own large herds. They live nomadic life wandering between the valley regions protected from the wind in the winter and the gnat-free mountainous tundra in the summer. The square winter hut, which is built [342] from wood and is half sunk in the earth, is built in imitation of the Russian house. They recall the old pit dwelling of Europe. Only in the summer do they use their round, transportable tent, which in its original form consisted of a framework of poles covered with reindeer skins. Today, however, it is often only a type of board shanty, since their wanderings are mostly limited to short stretches. The winter huts as a rule lie on rivers and are permanent constructions. Older people often remain in the winter huts even in the summer, and accordingly [142] the Koryak must be designated as semi-nomadic. Physically the Koryak are medium to short in height with straight black hair, slight growth of hair on the face, and brown-bronze skin color. They make their [281] clothes out of reindeer, wolf and dog skins, and they make lighter clothing for the summer from seal skin. In this /110/ they show a color-happy feeling for art and decorate their clothing with strips of hide of different colors or with leather which they form into various ornaments.

The Kamchadal or Itelmen occupy the southern part of Kamchatka Peninsula, primarily the southern part of the western coast and the Kamchatka valley. Their number earlier must have been much greater, for old reports speak of tens of thousands. Today their number can [177] scarcely be determined since a very large part of the people have been completely Russianized. Many have almost forgotten their own language. It is interesting that numerous Russians in the first wave of colonizers are completely absorbed in the Kamchadal and cannot be distinguished from them at all in mode of living and customs. In some villages on the western coast between Zedanka and Zepochnoye there are still pure Kamchadal, who number around 800 (1930). Often these people alone are designated as Itelmen and contrasted to the Kamchadal. They [342] have abandoned their original earth hut, which can still be encountered in the interior as a base for hunters, and they live in clumsy wooden houses of the Russian type. Fishing is their principal occupation. In the winter, however, they move into the mountains to hunt fur animals. Their houses stand unordered in loose groups on the rivers. When the

Kamchadal, Eskimo 101 563 [226]

when the salmon run begins, festivals of joy and work begin for young and old. As a rule the fish are caught in fixed traps, which are drawn across the river so that the way is barred for the fish as they go upstream. The fish press together in great masses in front of this weir and are caught with simple scoop nets. The common drying place is never [251] empty, for it is important to preserve as many fish as possible for the entire year by drying them. In addition, an older method is still used occasionally: the fish are buried in the earth and there becomes sour; hence there is a kind of fish silo from which fish can be fetched during the winter as needed. A penetrating fish smell fills the entire settlement, and there is no end to eating during the catching season. It is not too much to say that the Kamchadal live on fish and tea. The [231] dog, the most important domestic animal and beast of burden for all sedentary native northeast Siberians, is also fed on fish. The number of dogs is considered as the mark of wealth. There are families which have 200 to 300 dogs, which are housed in a pen near the house and fill the entire region with their hoarse barking. It is inadvisable for strangers to go near these half-wild animals. At present the horse is spreading more and more and is beginning to displace the dog as the beast of burden. Through the state organization of fishing and the introduction of modern methods, large sections of the Koryak have also been incorporated and placed in a new order. Many have also turned to agriculture and cattle-breeding.

/111/ The Asiatic Eskimo live on the banks of Bering Strait and occupy 17 villages with approximately 1,600 people. They ex- [174] tended much further formerly; and it is for this reason that there are Eskimo names for places now occupied by Maritime Chukchee. The displacement of the Eskimo must have been done simply by force, for the sagas of the Chukchee are filled with reports of hard battles with the Eskimo, battles which, however, ended long before the entrance of the Russians. Today the two peoples live harmoniously beside one another in separate villages. The Asiatic Eskimo differ from their relatives in Alaska in their speech but culturally they form a unit with them. With their life completely directed toward the sea, they seldom go into the interior of the land; for such occasions they use dog sleds. On the Commander Islands live approximately 500 Aleut, who, according to their language, are related to the Eskimo. They, too, live completely from catching sea animals, since the islands offer them only birds.

As has already been said, the Buryat Mongols have a cultural

563 As has already been said, the Buryat Mongols have a cultural
517 administration of their own in the Autonomous Soviet Republic named after them and in the national districts already listed. Using the Russian alphabet, they have created their own writing. Elementary schools have permeated the entire land, and there are also higher schools in the cities; hence, according to Soviet claims, illiteracy has been almost completely eliminated. Newspapers appear in the Buryat language, and in Ulan-Ude even a Buryat-Mongolian theater has been brought to life. Numerous cultural institutions provide political enlightenment. Like all autonomous regions in the USSR, the Buryat Mongol ASSR has, as it is called in Soviet literature, a culture which is national in form and Socialist in content. This goal is also strived for with the other old peoples. In the national districts such as the Chukchee (capital Anadyr') and the Koryak (capital Palma) have, so-called "Kultbazen" (culture bases) play an important role in this connection. Since continuous measures for influence and
[658] education are not possible with areas so large and populations so widely scattered over these areas, there have been created for this purpose culture bases which are visited on occasion by the natives. How life in such a culture center can be envisaged is described by Nicholas Mikhailov (Land of the Soviets, New York 1939, p. 187): "When a hunter or reindeer breeder enters a culture base, he is provided with food, and a bed is placed at his disposal. He is led into the museum, and the natural bases and the economy of his region is illustrated to him. He is shown the workshops, and, if necessary, his gun, his sled, or his clothing are repaired. He learns now to rear animals, to remove their hides and to prepare the hides, how to preserve fish and how to take care of sick reindeer. /112/ A doctor examines the hunter in a clinic and treats him as necessary. The new arrival takes a bath, attends the movie, and listens to the radio."

563 Apart from the Buryat, who have self-consciously taken their own fate into their hands, and the Chukchee and Koryak, who stand out above all others because of their important reindeer breeding and who can lead their own life apart from the rest of the world, all the other small peoples and remains of peoples are without significance for the development of the land, however interesting their ethnological remains are. Their existence in the broad wastes of their residential areas is limited to very primitive self-sufficiency or to the exchange of their products for other basic needs. Thus it was left to the Russians, not only to develop the land but also to bring it closer to the great economy and the world.

1/ [cf. cat. 563, p. 115 -- Analyst]

The Russians

563 167 361 The original Cossack settlements formed the basis of the Russian colonization. According to the treaties of Aigun and Peking, the Amur and Ussuri Cossack formations were put next to the Transbaykal Cossack army assigned to the Argun. In the period from 1858 to 1862, 23 such Cossack settlements with 5,000 people came into being on the Ussuri and 75 on the Amur. These Cossack outposts consisted of loosely laid-out villages and also of individual settlements, which were organized in a military fashion for the protection of the border, but which in addition had to maintain themselves economically. For this there was distributed to them large landed property which extended along the Argun, the Amur, the Ussuri and the Suifun along the Chinese border. Successive settlers attached themselves to these strips of settlements, made them more densely populated or extended them. Thus there came into existence, on the one hand, the remarkably long strips of settlements along the border rivers, settlements which extended into the hinterland only where favorable conditions allowed new land to be developed without much work; and, on the other hand, there came into existence among the settlers themselves a certain organization which can be observed in typical characteristics even in recent times. Near the borders on the better land near the rivers sit the old settlers with large pieces of property; mostly these old settlers are descendants of the Cossacks who, after years of fighting, deprivations, and also successes, became enterprising culture pioneers who did not shy from risks, and who represent a powerful, hard, self-conscious race of people. On the other hand, to the side in the interior, mostly on land of slight value, live the the new settlers who came later; they have preserved all the typical characteristics of the East European Russian with his strengths and weaknesses.

563 167 162 Despite various laws favoring emigration of Russian citizens--the first law in this connection was enacted in 1861--/113/ and despite many facilities and much fostering, colonization proceeded only very slowly in the first decades. All recruiting measures had only slight success. The difficult, long land route through Siberia and also the long sea trip frightened many off. Only with the building of the Transsiberian Railway did a stronger stream of immigration begin, and the population east of Lake Baykal was already 1,622,000 by 1911; of these 1,225,000 were Russians and around 20,000 were other Europeans. Of the remaining population of 379,000, the greater part were Buryat, who numbered 205,000, and the remainder was divided between

563 167 162 Chinese, Koreans, and numerous small indigenous peoples. The disorders of the revolution after World War I brought many Russians to the Far East. Planned measures for colonization instituted by the Soviet government contributed to this, and by 1926 the population east of Lake Baykal reached around 2.3 million and had risen to 4,040,000 persons by the time of the last census on January 17, 1939. The increase consisted principally of Russians. By 1939 in the Buryat Mongolian ASSR the Russians had an absolute majority with 52.7 percent (in 1941, 57.2 percent) of the entire population of 542,000. In the Chita region, with a total population of 1,159,500, the number of Buryat and other natives can be estimated at most at 50,000, and in the Khabarovsk and coastal region, with a total of 2,338,100 inhabitants, the percentage of indigenous peoples is only 3 percent.

The main part of the Russians are occupied with agriculture and cattle breeding. In addition, fishing and hunting serve as an additional occupation. The professional Russian hunter, the "Promyshlennik," a real runner type, still hasn't died out. The number working in industry has increased sharply in recent years.

563 361 342 Even here the Russian peasant continues the life he used to lead at home, and he troubles himself here no less than he did there. Accordingly one can often recognize in the type of settlement where the settler came from, even if it was decades and more ago. The Great Russians, especially those from the northern regions, prefer residences on rivers and in wooded areas. Their houses are built in the same block house style of the "izba" they used to live in. Hunting and fishing are very popular with them. The White Russians also prefer wooded areas. The Ukrainians, on the other hand, are mostly better farmers; they are to be encountered in especially large numbers in the Khanka Lake area, which is relatively free of woods, and around Bochkarevo /now: Kuybyshevka/, and they are descended in large measure from Cossacks who had been sent from the Don area. Their houses show the same whitewashed mud walls and are covered with straw like their "khata" in the Ukraine, although there is really no shortage of wood. Although there are often rivers flowing nearby, they dig a well near the house as a rule because well water, as they say, is cooler and more tasty. Woods in /114/ the vicinity of Ukrainian settlements soon are destroyed; the Ukrainian uses not only the axe but also fire against the woods. The Ukrainians are especially successful with cattle raising.

The cities, too, show the usual Russian face. In the center of the larger cities there are, in addition to narrow tenement houses, some

pompous, mostly very tasteless buildings of the Czarist period. But in the suburbs one-story log houses with four or more windows often line the unpaved streets with wooden sidewalks for kilometers. In the period of the Soviet regime the large cities have acquired entirely new sections which are transected with asphalt streets lined with trees, and on these streets rise light, detached apartment buildings, often with four or more stories; these apartment buildings seem almost like skyscrapers against the otherwise flat picture of the city. Chimneys and thick, reinforced concrete buildings of the factories, which today are most striking, rise above the new buildings as a rule. Thus in the cities there are the contrasts ranging from the old, primitive, peasant-like suburb to the most modern industrial establishments. Nevertheless, almost nowhere does one note that he is in the Far East. Even in the Chinese quarter of Vladivostock there stand the same whitewashed tenement houses, and only the Chinese writing and the nearby junk harbor betray the fact that one is in an east Asiatic harbor city.

The state-directed economy with its tight compression into cities and collectivization in the country has introduced many new traits in the life and work of the people, and many old, proved things have been destroyed. It has mixed people up and done many new things, so that everything is in the process of fermenting, of being reformed even in the folk life of the Russians.

Chinese, Koreans, and Others

In Transbaykal Chinese are encountered very rarely. They used to be there in larger numbers as traders in Maimache, the present Altin-Bulag, opposite Kyakhta on the Mongolian border, but they were driven from there during the uprising of the Mongols after the first world war.

The first Chinese came to the Amur and Ussuri country as ginseng-seekers, as "panten"/unhardened antlers/ hunters, and as traders, and later also as settlers. As culture pioneers they were valuable everywhere in the wilderness where they could practise agriculture, which they pursued industriously and successfully. Their ability to make capital out of everything, however, soon made them into unscrupulous exploiters of the natives, and, accordingly they were unwanted guests under the Russian administration, especially since they carried their rich earnings out of the country, then /115/, as a sworn community in trade, they suppressed all competition. They

563 also engaged in smuggling gold. In 1900 it came to a catastrophe when the Russian authorities drove all Chinese over the border. At Blagoveshchensk nearly 5,000 perished who were chased with force into the Amur. The building of cities and industry, however, drew them again and again into the country as workers, and many of these remained in the country as settlers or also as frugal artisans. Culturally they have had a very strong influence on the natives, who, like the [177] Udekhe in southern Sikhote-Alin', have not only taken over the material life of the Chinese but have even given up their language in favor of that of the Chinese. Chinese clothing and the Chinese houses have asserted themselves as far as the Gilyak on the lower Amur and stand everywhere in competition with Russian influence, [342] which gradually has asserted itself. The Chinese house, the 'fanse,' has mud walls. Its gabled roof is covered with straw. Almost the entire front side is taken up by large windows, pasted over with oil-paper and covered with bars; these windows can be slid out and removed. On the sides and along the back wall there are no windows. [354] In the interior of the 'fanse' a small stove with an iron boiler lies on each side of the door. Smoke ducts lead from these two stoves under [352] the sleeping places which built from stone and mud, extend along the walls and fill nearly half the room. This type of plank bed, designated a "kang," is approximately 0.50 meters high. From these the smoke ducts then lead to the chimney, which is likewise made of stone and mud. Because of the danger of fire, the chimney always stands alone and somewhat away from the house. It is not uncommon for the 'kang' to have its own heating also. The farm buildings are [351] usually attached to the house at right angles, and the square courtyard thus formed is closed off behind by a wall or a fence. The Chinese also like to mark off a rectangular area in front of the house, or to surround their entire lodging with a wall which is often very thick; the natives, however, mostly are satisfied with the house alone, which is often only a wretched, dirty mud hut, whatever the layout.

[162] Of the 87,999 Chinese who lived in Siberia in 1939, approximately half live in the southern Ussuri region; the remainder are mostly scattered in the cities. The number of women among the Chinese is very slight and amounts to only 6 percent. In the southern Ussuri region, therefore, the number of Chinese-Udekhe half-breeds is large; they are generally designated "tas."

The Korean element in the population is entirely different. Some old villages in the Pos'yet area have existed since time im-

memorial. The immigration of additional Koreans, however, began only after the Treaty of Peking, and in this immigration the southern region was their preferred goal. These Koreans always came with their wives and families, and the majority of them were /116/ farmers. They are a valuable part of the population and show especial skill in growing Manchurian plants such as millet, beans, and rice. In addition, they keep cattle as work animals and pigs. They have succeeded in extending the cultivation of rice to the north as far as the Khabarovsk region. Of the approximately 170,000 Koreans (1939) who live in the Soviet Union, around 100,000 reside in the Ussuri region. A part of the remaining Koreans have been resettled in Turkestan where they live as rice planters on the Syr Dar'ya and the Iliysk.

A few thousand Japanese resided in the coastal cities up until World War I, but since then the number has constantly decreased and amounts now to a few hundred at most.

Worthy of mention as a special group are the Jews, who have their own autonomous region west of Khabarovsk on both sides of the right tributaries of the Amur, the Bira and the Bidzhan. Of the entire population, which number 108,400 (1939), approximately half are Jews, who engage in all vocations and who not only come from the Soviet Union but also from other countries.

In addition there are, scattered over the entire region east of Lake Baykal, Poles, Lithuanians, Latvians, Moldavians, Tatar, and others, including Germans; in short there are representatives of all peoples who reside in the Soviet Union. Their total number may be estimated at approximately 20,000 to 30,000.

Distribution, Development, Structure

With the overwhelming vastness of the area and the extraordinarily uneven distribution of the population, figures on the density of population have scarcely any meaning. The main part of the population, comprising about 90 percent, cluster together in a long, extended zone of settlements, which begins at Lake Baykal and stretches along the Amur and Ussuri to Vladivostok. The zone, which is otherwise narrow, attains a greater width in some areas.

In Transbaykal only the river areas of the Selenga and of the Amur are thickly settled, while in between in the area of the Yablonovyy Ridge there is a certain thinning out of the settlements. The valley region of the Selenga, which is occupied primarily by Buryat, attains

361 in some counties a density of 15-20 persons per square kilometer.
161 East of the Yablonovyy Ridge, between Chita and the Argun, there is a second densely populated zone, where the density reaches up to 20 persons per square kilometer in the agricultural area of black earth. The larger northern part of Transbaykal, however, is only very lightly settled, and the wooded wastelands of the plateau area of the Vitim are for all practical purposes not settled at all. Only gold mining has given rise to settlements scattered here and there like dots.

In the Amur area the river itself and the railroad stand out as the guiding lines of the settlement. The narrow area between the two, however, /117/ is not always occupied throughout. In the Zeya-Bureya plain the civilized area then enlarges into an extensive, closed-off plain of settlements; in this plain the landed estates of the former Cossacks lie on the Amur; adjacent to them in a broad band are the cultivated fields of the old settlers, while the new settlers are distributed more on the outer rim. In the Zeya-Bureya plain lies 80 percent of all the cultivated area in the Amur region. In some sections the density of population here, too, reaches 20 persons per square kilometer. East of the Bureya a strip of settlements stretches along the railroad, while a second follows the Amur. In the Khabarovsk area the two meet. From there the thickly-settled zone winds along the Ussuri to the south. After the Iman, a tributary of the Ussuri, the zone stretches out to a width of up to 250 kilometers and so reaches Vladivostok. In this region between Iman and Vladivostok lies approximately 75 percent of the cultivated area of the coastal region.

On the lower Amur there is no extensive area of settlement. Here the population is concentrated in the two cities of Komsomol'sk and Nikolayevsk and in individual villages which lie along the river's course, just as individual village settlements outside of the settled zones described are generally to be found only along the courses of rivers. Even in 1952 there were only 30 kolkhoz in the region of the lower Amur. On the coast of the Ussuri region there are relatively few colonies. The southern part of this coast is somewhat better settled, since the coast is more open and the treasures of the soil existing abundantly there create opportunities for employment for a larger population. The Ol'ga Bay and its hinterland should be mentioned here especially as being heavily settled.

The interior of Sikhote-Alin' like entire distant north of the Far Eastern area as far as the Chukchi Peninsula is extraordinarily thinly settled. Here the density of population sinks to 0.1 per square

kilometer and lower. Here primarily are indigenous peoples, who wander through the vast, immense land as reindeer breeders and hunters. The sources of food in the sea, however, have also lured many people to the coast, on which, at greater or smaller distances from one another, there can be found again and again fishing settlements inhabited by natives, often intermixed with Russians. In recent times fishing kolkhoz have been founded according to plan in all the favorable places, and they have been occupied by Russians. The most important places are at the same time starting points for land routes into the interior; this applies to Ayan, Okhotsk, Magadan, and Gizhiga on the Okhotsk coast. Kamchatka has increased its population greatly in recent years because of the great rise in fishing and hunting of sea animals. In 1950 the total population was approximately 130,000, which was five times as much as it was in 1926. However, the main stream of immigrants came here, too, to the coastal places, especially Petropavlovsk, Ust'-Kamchatsk, and Bol'sheretsk. Despite the important growth in population, the density of population in Kamchatka has scarcely reached 1 person per square kilometer.

/118/ Sakhalin, too, like Kamchatka has had a large immigration. However, here the immigration is explained above all by the development of the petroleum, coal, and fish industries, all of which are located near the coast; accordingly the population is compressed into these areas, while the uneconomic interior is in large measure uninhabited. Only in the valley of the central depression are agricultural settlements encountered. Southern Sakhalin, which was Japanese until 1945, also shows somewhat the same picture in the distribution of its population. The number of inhabitants exceeds that of northern Sakhalin, but here, too, the population is compressed into the coastal area, whereas the interior, as in northern Sakhalin, is occupied for the most part only by small groups of old peoples such as the Olcha, the Oroki, the Gilyak, and the Ainu. In southern Sakhalin there were in 1940 still 1,500 Ainu, who in numbers rank above the other old peoples. The number of the other remnant peoples scarcely reaches 500. The evacuation of the Japanese has given the Soviet Union the task of filling the land with its own people, and, according to all information available, they have succeeded in this. In the process other people have moved in to the former Japanese settlements, but the spatial distribution remains the same. The numerical changes in the population will be discussed later.

The data of the censuses from 1926 to 1939 are available for

161 The data of the censuses from 1926 to 1939 are available for
167 observing the general development of the population. According to these the number of inhabitants in the area east of Lake Baykal has increased from 2.3 million to 4,039,800 inhabitants, i.e. 75 percent. By comparing this with the average increase in population in the Soviet Union, which amounted to 15.9 percent during this period and which can be considered equivalent to the natural increase in the population, it can be deduced that in the eastern region the growth through immigration reached the considerable height of 59.1 percent. The individual areas, however, participate very differently in this increase. The increase in the Buryat Mongolian ASSR reached only 39 percent, but that in the Chita area was 73 percent, and in the Khabarovsk area it was even 136 percent. Since resettlement in the Soviet Union is directed by the state, a tendency is shown here to give preferred treatment to the area farthest from European Russia. The coastal district, however, appears to be an exception, for its population increased only 42 percent during this period.

Development of the Population

	1926	1939	Increase in percent	Increase through immigration in percent
Buryat Mongol ASSR	390,000	542,200	39	23.1
Chita Region	670,000	1,159,500	73	57.1
Khabarovsk Region	606,000	1,430,900	136	120.1
Coastal District	638,000	907,200	42	26.1
Total	2,304,000	4,039,800	57.5	59.1

162 /119/ During the same period between 1926 and 1939 a basic change in the structure of the population took place because of the extraordinary increase in the urban part. While the urban part of the population in the Far Eastern region amounted to only 24 percent in 1926, by 1939 it had increased almost to 50 percent. Since Soviet statistics make the concept of urban population equivalent to that of non-agrarian population, a general division by vocation can be deduced from these figures. The Buryat Mongol ASSR has remained predominantly agrarian. The urban share is only 30 percent and even lies below the average for the Soviet Union, which is 32.8 percent. In the three other areas this mean is exceeded and amounts to 44 percent in the Chita region, 45 percent in the Khabarovsk region and even

51 percent in the coastal district. The increase in the urban section of the population indicates that immigration which formerly served predominantly to foster agrarian colonization, now serves the industrial build-up more. 162

The increase in the urban population is made graphic in the growth of cities. In 1939 there was a total of seven cities with more than 50,000 inhabitants; except for Blagoveshchensk, they all increased in size, as follows: 361 162

	1926	1939	Increase or decrease in percent
Ulan-Ude	29,918	129,417	+ 347.5
Chita	61,526	102,555	+ 56.7 /sic/
Blagoveshchensk	61,205	58,761	- 4.0
Komsomolsk	---	70,764	---
Khabarovsk	52,045	199,364	+ 283.1
Voroshilov	35,344	70,628	+ 99.8
Vladivostok	107,980	206,432	+ 91.2

Almost a quarter (22 percent) of the entire population of the Buryat Mongol ASSR lives in Ulan-Ude. The city of Chita, however, contributes only 9 percent to the population of the region. Here the urban-industrial population is distributed among numerous places. In the Khabarovsk region the three cities Blagovshchensk, Khabarovsk, and Komsomolsk together comprise only 23 percent of the total population and something more than half the urban part of the population. Komsomolsk is a new establishment as a city and did not exist in 1926. In the coastal district the relations are similar to those in the Buryat Republic. Here around 23 percent of the total population is concentrated in Vladivostok alone. Together with Voroshilov, the two cities together comprise 31 percent of the total population. Apart from Chita, then, all the above-mentioned cities are important population centers which stand in contrast to the vast and thinly-settled regions.

/120/ Urban and Rural Population According to the Census of 1939

	Urban Population	Rural Population	Total
Buryat Mongol ASSR	163,425	378,745	542,170
Chita Region	510,900	648,578	1,159,478
Khabarovsk Region	647,653	783,222	1,430,875
Coastal District	464,509	442,711	907,220

The Development of the Population 1939-1950

161 The development of the population after 1939 cannot be followed exactly, since no census has been taken since then and also no other official data have been published on this subject. Incidental data on individual places or regions allow a general tendency to be noted, but they are not sufficient to give a clear picture in terms of figures. The best opportunity for this is provided by the election statistics for 1950. Critical evaluation of these statistics enables us to note the total figures for the population, although to be sure the figures calculated are only approximations and contain concealed sources of error which cannot be avoided. Nevertheless the election statistics must be drawn upon, because, with the lack of other information, they offer the sole opportunity to acquire at least a survey of the development of the population.

The total population of the Soviet Far East amounted to 4,039,800 in 1939, according to the census of that year, and to around 6.3 million (including southern Sakhalin and the Kurils) in 1950. The total population, then, had increased by around 2.3 million persons in this time. While the population increased by 75 percent in the 13 years from 1926 to 1939, the increase in the 11 years from 1939 to 1950 was only 35.6 percent. If the mean natural increase in population in the Soviet Union during the period 1926-1939 (15.9 percent for 13 years, 1.22 percent for one year, 13.42 percent for 11 years) is applied to the Far Eastern region without consideration of the effects of the last world war, the resulting figures show that the 35.6 percent general increase in the population consisted of 13.42 percent from natural growth and 22.18 percent from immigration. Under these conditions the general picture of the population development in the Soviet Far East can be concluded to be as follows:

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1939 population	4,039,800
Natural increase 1939-1950	538,140
Increase through immigration	1,722,060
1950 Total	6,300,000

/121/ Even if immigration from 1939 to 1950 did not attain the measure of that of 1926 to 1939, it is nevertheless significant with its general yearly average of 156,500. Since during the six years of the war (1940-1945) all immigration was probably stopped, most of the settlers must have been brought into the Far Eastern region in the remaining five years and especially after the war; this would make the annual average almost 350,000.

The development of the population in the individual regions can also be given only in general figures. Here the difficulty is encountered that the administrative borders were changed in the years after World War II, and accordingly the data can no longer be compared in all cases. Only the Buryat Mongol ASSR and the Coastal District have remained unchanged administratively, while other regions can only be treated together. 161

Population Development According to Regions

	1939	1950	absolute increase	increase in percentage
Buryat Mongol ASSR	542,200	600,000	57,800	10.7 %
Chita Region Khabarovsk District	2,590,400	4,500,000	1,909,600	73.3 %
Coastal District	907,200	1,200,000	292,800	32.3 %
Total	4,039,800	6,300,000	2,260,200	35.6 %

The above chart shows that the main increase in population occurred in the Chita Region and the Khabarovsk District, while the percentage of increase in the other two regions is lower than the general percentage of increase.

There must even have been some emigration from the Buryat Mongol ASSR. If we apply here the above mentioned percentage of natural increase in population (13.42 percent), then this alone should have resulted in an increase of 72,863. This means that around 15,000 persons must have emigrated from the Buryat Mongolian ASSR in the period from 1939 to 1950. The predominantly agrarian character of this republic--in 1939 the rural population amounted to 70 percent of the total--makes it appear completely possible that this occurred because of the progressive mechanization and technicalization of agriculture. [167]

The absolute increase in the population of the Coastal District from 1939 to 1959 was 292,800, of which 121,750 came from natural increase and 171,050 from immigration. From individual reports on significant increases in industrial production and also from the growth of individual cities (Vladivostok increased by around 100,000, Voroshilov by around 70,000, and Artem has passed the 50,000 mark), it can be assumed with certainty that not only the greater part of the immigration but also /122/ the greatest part of the natural population growth has generally been fed to the industrial sector of the economy.

161 A comparison with 1939 is not possible for the other regions since the administrative borders have been changed. However, a comparison can be made of the population calculated from the 1947 elections in the republics and other data from January 1, 1949, as Shabad has used them in his Geography of the USSR, in order at least to note the spatial direction and the economic employment of the population increase; for safety it must of course be conceded that both comparative sizes here do not represent exact data.

In comparison with other regions, the new Chita Region has had the smallest increase in population (150,000), of which, however, the city of Chita alone has taken a significant percentage (around 50,000) into its industry. Information on an increase in coal mining, in the production of non-ferrous metals, etc. points to an increase in the working force in industry; since also the expansion of the cultivated area in the Chita Region is diffficult, it can be assumed with certainty that the largest part of the population increase has gone into industry. The relationships appear to be different in the Amur Oblast formed in 1948; this oblast includes the Zeya-Bureya plain which is important agriculturally. /Although the data here are not entirely clear, there are still numerous indications that the relatively large increase in population has benefited the agrarian sector. From this region, too, come most of the success stories in agriculture, and there is by all means the possibility of expanding the cultivated area. On the other hand, there are only a few reports of new industrial establishments. A part of the population increase has probably been drawn into the lignite fields of Raychikhinsk and Kivdinskiy and the new coal district on the Magdagachi; nevertheless, the Amur Oblast retains its predominantly agrarian character. The capital of this region, Blagoveshchensk, provides an indication in this direction, for it has even decreased its population from 61,205 to 58,761 in the period from 1926 to 1939.

A different picture is seen in the Khabarovsk District, whose total increase in population has been relatively large. Alone the growth of the cities (Khabarovsk has increased by 100,000, Komsomolsk by 80,000, Sovetskaya Gavan' has grown to more than 20,000, Magadan has passed the 50,000 mark, etc.) indicates that here the population increase has flowed primarily into industry. Indeed, if the district's total population increase can correctly be assumed to be 250,000 as indicated by the above-mentioned sources, --the figure is too low in my opinion--then there has even been a migration from the country

to the city. There are, to be sure, reports of the expansion of the cultivated area in the Khabarovsk area, /123/ but increased employment of machinery in agriculture is repeatedly reported in announcements, so that it is undoubtedly possible that manpower has been released from the land. Sakhalin Island shows the most significant increase in comparing the estimates for 1947 (Shabad) with the figures obtained on the basis of the 1950 electorate, for Sakhalin has tripled its population from 300,00 /sic/ to 900,000. It is difficult to find an explanation for this, even if the first figure is regarded as too low and the second too high. Before the war the population of the Russian part of Sakhalin was estimated to be 100,000. During the war new petroleum fields were developed, petroleum and coal production was pushed up a great deal, a new harbor, usable the year around, was built in Okha, and many other things were done. The post-war period brought further economic exertions, and accordingly the population in the Russian part must have increased significantly during this period, perhaps to 200,000 or more. The Japanese part was occupied by 412,000 persons in 1940. For economic reasons arising out of the war the Japanese certainly increased the number of people assigned there, and in the process not only created new jobs but also built up the industrial plants. After the evacuation of the largest part of the Japanese population, the Soviets had the task not only of occupying the land but also of getting the economy back into production. For this an exchange of man for man was not possible; instead the Russians had to resort to an oversupply of manpower. But the difference in the economic system must also be pointed out. To the Japanese who managed their economy rationally the question was the employment of all manpower, while with the Soviets--especially with the political tensions of the present--the principal emphasis is on getting production going again, and the employment of people plays only a secondary role. It should further be noted that in the Japanese population the ratio of men and women was 130:100; the population thus had a colonial stamp to it. It is certain--and isolated data confirm this--that the Soviets have settled families in southern Sakhalin, and accordingly there is a different population structure than existed under the Japanese. All these reasons make it seem understandable if the present population of southern Sakhalin exceeds that of the pre-war period. And in this connection mention should also be made, in conclusion, of the political and military side of this question; for a land filled with people is in a military-political sense a much greater asset than an empty one.

KG1 361 To these inhabitants listed in statistics for Transbaykal and the actual Far Eastern regions must be added another population, which can to a certain extent be designated as invisible, for figures on this population appear neither in official pronouncements nor in any other Soviet statements. These are the work camps, which /124/ play a not unimportant role economically because of their mobility and their massing of manpower. Little exact information can be given in detail on their employment. It is known that there are work camps in Transbaykal and also in the lower Amur region and further that most of the workers are assigned to building the Baykal-Amur railroad and also to gold and other mining installations in the area of the upper Kolyma and also in other places. The existence of the work camps makes it difficult to judge or to determine the human work potential in the individual regions. In no case can they be overlooked.

161 In conclusion a summary is given of the population in the individual regions according to the calculated level of 1950:

1.	Buryat Mongol ASSR	600,000
2.	Chita Region	1,200,000
3.	Amur Region	900,000
4.	Khabarovsk District	1,500,000
5.	Coastal District	1,200,000
6.	Sakhalin Region	900,000
	Total	6,300,000

161 361 Estimated Growth of the Largest Cities

	1939	1950
Vladivostok	206,432	300,000
Khabarovsk	199,364	300,000
Komsomol'sk	70,764	150,000
Voroshilov	70,764	150,000
Ulan-Ude	129,417	150,000
Chita	102,555	150,000
Blagoveshchensk	58,761	60,000
Artem	more than	50,000
Magadan	more than	50,000

/125/ THE ECONOMY

Agriculture

Among the various branches of the economy agriculture stood 162
in the foreground in 1938. Of the entire population 55.8 percent were attached to agriculture; the percentage of those in agriculture in the various regions was as follows:

	rural	urban
Buryat-Mongol ASSR	70 %	30 %
Chita Oblast	56 %	44 %
Khabarovsk Krai	55 %	45 %
Maritime Krai	49 %	51 %

In the interval these relationships have changed substantially. The increase in the total population up to 1950 was 35.6 percent, and the bulk of this was in the industrial sector; accordingly the urban, i.e., the industrial population has a majority today in the entire area of the Far East. Among the various regions the Buryat Mongol ASSR has retained its overwhelmingly agricultural character. The same can also be said of the Amur Oblast newly formed in 1948, though this cannot be verified in figures.

The natural conditions for agriculture are completely favorable 241
in the southern parts of the Far Eastern region. All of Transbaykal lies 132
within the 5° May isotherm, and the Amur Oblast is included in the main in the 10° May isotherm. The brief transition from winter to summer lengthens the vegetation period, which is generally sufficient here. The harsh winter, however, limits cultivation, and accordingly summer cultivation predominates. The rainfall causes difficulties. While a heavier rainfall could be desired for Transbaykal, the rainfall in the Amur and Ussuri regions exceeds the amount necessary, and this results in certain restrictions. The great dampness hampers the ripening of the grain in the fields and fosters the appearance of vermin. Water often remains standing on the flat fields and often leads to the rotting of the plants. Accordingly the Russians are forced to give up European 241
flat cultivation /Flachbau/ in favor of furrow cultivation /Furchenkultur/, in which the grain is sown on heaped up earth so that the water collects in the furrows in the ground and can there seep in or flow off /126/.

The method is used with success everywhere in the Far East by the

241 Chinese. This method of cultivation, of course, demands more work, and the Russian clinging to his customary methods naturally struggles against it. With the beginning of collectivization the kolkhoz have employed specially constructed sowing machines which take these special conditions into account.

North of the Amur region the natural conditions for agriculture become more unfavorable. The reason for this, however, does not lie in the increasing coldness of the winter but rather above all in the shortening of the vegetation period. These regions, therefore, de-
[242] pend on cultivated plants which ripen quickly. In this connection the Soviet Union has attained successes worthy of recognition in the development of types which ripen quickly and in the use of special methods of preparing seeding (Yarovisation). The Soviet Union has succeeded in moving significantly farther to the north the outer limits for grain cultivation.

134 The earth in Transbaykal in the areas preponderantly covered by forests belongs predominantly to the podsol type; numerous varieties of earth have been formed which sometimes approach loamy soil, sometimes sandy soil, according to the clay content. In the river valleys marshy and semi-marshy soil is widely diffused. The vegetable mold content of the podsol soil is only slight, being 2 percent to 3 percent; in marshy soil, however, it is large, being 15 to 30 percent. In the forest steppe areas and in the steppes of Transbaykal the soil is relatively rich in vegetable mold. East of the Yablonovyy Ridge typical black earth has even developed as far as the Argun. Interesting is the fact that the various slopes of the same ridge often show a different soil profile which corresponds with the plant growth. The north and northwest slope is covered with taiga, under which typical podsol soils lie, while on the east and southeast slopes, which are taken up by loose collections of birches, there is little or hardly any podsol; indeed, according to its external signs it already passes over here into the dark chernozem type. In the Amur and Ussuri country podsol and marshy soils with all their transitional forms take up the greatest part of the land. The soil of the Zeya-Bureya lowland and of the Ussuri-Khanka depression--the principal agricultural areas--consists essentially of young, fruitful alluvial deposits. The dark color of the upper layer of soil, rich in vegetable mold, misleads one into designating it as chernozem, black earth, but in reality it is semi-marshy meadow soil with thick layers of vegetable mold. In the dry spots this soils does in fact recall the black earth in its physical

characteristics and its structure, but in lower, damp places it clearly shows its semi-marshy origin. 134

In general, however, podsol soil predominates here; it is but a little inferior in quality to the same soils of North Germany and Central Russia, and it is well suited for agriculture. According to general /127/ estimates, the area capable of cultivation is 200,000 square kilometers in Transbaykal, 110,000 square kilometers in the Amur county, and 150,000 square kilometers in the Ussuri region--thus a total of 460,000 square kilometers. In contrast to these opportunities, the area exploited thus far for agriculture was only 1,877,900 hectares (1938) and thus only a small proportion of the total area available. However, the area under cultivation has increased 60 percent since 1913, when it was 1,171,500 hectares; and this is a mighty accomplishment for this land so distant from central Russia. 311

The growth of the area under cultivation occurred differently in the various regions as the following chart shows. The area under cultivation has more than doubled since 1913 in the Buryat Mongol ASSR and in the Chita Oblast, and this increase has been continuous in the years of the Soviet regime. The natural conditions here are similar to those of the southern Russian steppe, and require no special adaptation on the part of the Russian peasants. Conditions are different in Khabarovsk Krai and in the Maritime Krai, as has already been shown. The cultivation of new areas here is behind that in Transbaykal and shows greater variations from year to year. The decline in Khabarovsk Krai from 740,300 hectares in 1928 to 580,800 hectares goes back to the beginning of the Five Year Plans which eliminated less productive land by means of planned management. It is remarkable, however, --as official Soviet statistics indicate--that there has been a regular year by year decrease in the area under cultivation in the Maritime Krai from 1932 to 1938. (The figures from 1932 to 1938 in 1,000 hectares are: 461.8--449.6--431.6--419.9--371.0--322.0--322.0--318.3.)

The above as well as the following figures are taken from the Soviet publication, "Posevnye ploshchadi SSSR" (11).

11. "Posevnye ploshchadi SSSR" /Areas under Cultivation in the USSR/. The Dynamics of 1928, 1932-38 in Comparison with 1913. Statistical Reference Work. Issued by the State Planning Commission, Moscow-Leningrad, 1939.

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The Development of the Area under Cultivation
in 1000 hectares

	Buryat-Mongol ASSR	Chita Oblast	Khabarovsk Oblast	Maritime Krai	Total
1913	191.6	287.2	471.4	201.3	1,171.5
1928	203.7	407.7	740.3	413.0	1,764.7
1938	386.7	592.1	580.8	318.3	1,877.9

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Among the plants cultivated, grain by far stands in first place in all four regions. In the Buryat-Mongol ASSR 90 percent and in Chita Oblast even 92 percent of all the area under cultivation (1938) was devoted to grain; and accordingly the two regions can be regarded as pronounced grain areas. In Khabarovsk Oblast the proportion devoted to grain is 75 percent and in the Maritime Krai it is 69 percent. As is appropriate to the climatic conditions, the cultivation of summer grain predominates. Winter seeding in all four regions together takes up only 27,500 hectares, which is 1.5 percent of the area under cultivation.

/128/ The Cultivation of Grain in 1938 in 1,000 Hectares

	Total Area Devoted to Grain	Winter Grain	Summer Grains		
			Wheat	Oats	Barley
Buryat-Mongol ASSR	348.8	10.8	133.2	84.9	14.7
Chita Oblast	543.0	6.4	275.4	167.1	31.8
Khabarovsk Oblast	446.0	0.8	242.4	177.6	2.5
Maritime Krai	276.0	9.5	88.3	82.6	6.0

The cultivation of little paying summer rye predominated in the Buryat-Mongol ASSR before 1914, but since then this has been displaced more and more by wheat. By 1938 wheat was at the top of the list of plants cultivated, having 40 percent of the cultivated land devoted to it, and only 27 percent of the agricultural land was devoted to summer rye. The cultivation of potatoes, vegetables, and feed for livestock was entirely lacking earlier, but at present it is being strongly pushed, and by 1938 it had already reached 6.2 percent. In the Chita Oblast the cultivation of wheat has increased considerably and has tripled since 1913. Having 46 percent of the land under cultivation, it comprises exactly half the land devoted to grain. By 1938 only 6.9 percent of the land was devoted to summer rye, which once

dominated. A comparatively large area--3.4 percent of the total--is devoted to buckwheat. In contrast to this monotonous one-sidedness of grain cultivation in Transbaykal, the agrarian picture in the Amur and Ussuri country is more lively and more varied. Here, too, however, grain cultivation predominates, having 75 percent of the area under cultivation in Khabarovsk Oblast and 69 percent in the Maritime Krai. The sunflower is heavily diffused in the Zeya-Bureya plain, despite its damp climate, and recalls the home fields of the Russians in Europe. In the Ussuri region corn, too, again comes into its right, while the sunflower appears not to flourish here. In addition there are two important East Asiatic oil plants which are represented fairly equally in the two regions: the soy bean and the Perilla. The soy bean, which has more than 80,000 hectares of land devoted to its cultivation (1938), is, with its content of 13 percent to 21 percent fat and 35 percent to 38 percent albumen, an extremely valuable product for human and animal nourishment and also for industrial use. Of special importance is the fact that the soy bean enriches the soil with nitrogen and thus raises the yield of the succeeding planting. The Perilla (Perilla arguta), which is related to the sesame, delivers an excellent technical oil. The areas devoted to its cultivation, which was 4,500 hectares in 1938, is being expanded in a planned fashion. In the southern part of the Ussuri region various types of millet are cultivated by Chinese colonists, while the Koreans often devote themselves to the cultivation of rice, which extends into the region of Khabarovsk. Of other technical cultivated plants, flax, hemp, and tobacco are represented in the Ussuri country. The cultivation of sugar beets has special importance; it was introduced after 1920 and has attained a fairly great diffusion in the area of Khanka Lake. The beets are processed in the sugar factories in /129/ Voroshilov (Nikol'sk-Ussuriyskiy) and already cover a large part of the sugar requirements of the Far Eastern region.

In the wide expanses of the north, agriculture is developed only sporadically and serves above all for self-supply. With the exception of on the Chukchi Peninsula, there are very often small gardens with beets, radishes, potatoes, etc., and less often with oats and barley near the settlements. Only Kamchatka has an agriculture worthy of mention; in 1938 it had around 2,800 hectares under cultivation.

Of the four adminstrative units, the Buryat Mongol ASSR and Chita are the only ones which attain a surplus of grain. Both are well on the way to becoming real granaries, but at present their production

241 is still not sufficient to cover the deficit of the two other regions.

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Area Under Cultivation Per Person as of 1938

	Total Area Under Cultivation in 1000 hectares	Area Under Cultivation Per Person in hectares	Total Area Devoted to Grain in 1000 hectares	Area Devoted to Grain Per Person in hectares
Soviet Union	136,943.1	0.80	102,411.0	0.60
Buryat-Mongol ASSR	386.7	0.71	348.0	0.65
Chita Oblast	592.1	0.51	543.0	0.47
Khabarovsk Oblast	580.8	0.41	446.0	0.31
Maritime Krai	318.3	0.35	216.0	0.24
Transbaykal and the Far Eastern Region	1,887.9	0.47	1,553.8	0.39

241 No statistics of equal worth are available for judging the development of agriculture from 1938 to the present, since no such statistics have been published since then. Instead a great number of bulletins from the Soviet press are on hand; but these contain only isolated data of a general type, or special reports from highly variable areas or even localities. It is difficult to form an overall picture from all these reports, but it is the only possibility of being able to get at least a glance at the development.

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Many reports speak of an immigration which benefits both the industrial and also the agricultural sector. Also the enlargement of the area under cultivation and the raising of production often form the subject of these reports, and in this the results of the last Five Year Plan, up to 1950, are especially emphasized. In the steppe regions [B12] of the Chita Oblast a beginning has been made in the introduction of artificial irrigation. As a beginning for this, numerous canals were dug in 1948 which irrigated 12,850 hectares. In the vicinity of the big cities the greatest attention /130/ has been devoted to the development of farming near the city and especially to garden farming. In the surroundings of Vladivostok the setting up of 1,560 hectares of garden area in 1948 was envisaged in the framework of a great plan. Also in the Khabarovsk area important wild areas are being converted into cultivated land so as to ensure the feeding of the growing city.

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Here in 1950 a Melioration Machine Station was erected, the first in the Krai, which is to be followed by seven others. Of great significance is the development of agriculture on the Kamchatka Peninsula. Before World War I, according to Soviet figures, the area under cultivation was 4 hectares; in 1938 it was 2,778 hectares. Since then it has further increased. In 1950 there were more than 10 kolkhoz. In 1952 a scientific expedition was sent out from Khabarovsk to Kamchatka to investigate and to prepare for the gaining of additional land for agriculture. In the same year two Melioration Machine Stations were erected, which in the next three years made nearly 40,000 hectares of swamp and taiga country available for agriculture. From Sakhalin, too, successes in the winning of new land were reported. Prominent is the fact that also the native population (Gilyak in the "Chir Unvd" Kolkhoz, i.e., "New Life Kolkhoz") has been used with success in agriculture. How quickly the agricultural occupation of southern Sakhalin has been carried out is indicated by two reports: in 1949 there were 33 kolkhoz there and 3 sovkhoz, and in 1950 there were already 69 collective farms.

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The progressive mechanization and technicalization of agriculture constitutes a second important part of the content of the more recent reports. The number of Machine Tractor Stations (MTS) has increased in all regions. In the Buryat Mongol ASSR their number increased from 25 in 1937 to 36 in 1948; in Khabarovsk Krai they almost doubled in number from 1938 to 1947, when they numbered 76. In 1948, 25 Grass Mowing Machine Divisions were installed in the Buryat Mongol ASSR; and from 50,000 hectares of meadowland these Divisions were supposed to supply winter hay for the great kolkhoz, since the manual work force was not sufficient. In the Buryat Mongol ASSR the first agrarian city in the Soviet Far East was also established in 1950, and for this 400 two-story dwellings and 30 one-family houses were constructed. Remarkable, too, are the reports that special mowing threshers were used in harvesting the soy beans and the rice.

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Among the plants whose cultivation has been especially fostered, soy beans and rice stand in first place. In 1949 there were 16,000 more tons of soy beans harvested than in 1948. With rice cultivation, on the other hand, progress seems to be made only slowly. In 1937 in the Far East 36,400 hectares were cultivated with rice, and, according to the last Five Year Plan, the area is to be increased to 37,000 hectares by 1950; this is very modest considering the fact that in 1913 there were 57,000 hectares of rice fields. Great attention is also devoted

241 to the cultivation of sugar beets; the area devoted to their cultivation has again increased in the Khanka Lake area. Tea is supposed to become a new product of the /Russian/ Far East. In 1950 /131/ the [242] Botanical Institute of Leningrad sent an expedition there in order to explore, by attempts at cultivation, the practical possibility of planting tea bushes.

241 433 All the reports mentioned above are only individual pictures of the agricultural film which is being run in the Far East. These pictures show the great strivings of the Soviet Union to use all its power to advance agriculture in these regions. If the grain harvest in the actual Far Eastern area had increased 150 percent in 1947 as compared with 1913 and the potato harvest had even increased 200 percent (Trud, 25 October 1947), this increase in production stands in contrast to an approximately 300 percent increase in population in the same period; accordingly even today the same problems still exist in supplying the population of this area with food, as has been described in the above chapter, since an additional population increase runs parallel to the increase in production, even though the two curves may perhaps have gotten somewhat closer since 1947. The actual Far Eastern regions (not including the Buryat Mongol ASSR and the Chita Oblast) can still be regarded even today as import areas in terms of food. Their dependence on obtaining supplies is alleviated by the increased cultivation of potatoes and soy beans, and import at present is no longer a problem since Manchuria with its agricultural surplus has been brought into the Soviet sphere.

Animal Breeding

231 433 In the livestock-breeding of the Soviet Union Transbaykal assumes a prominent position. While on the average there are 233 cattle to 1,000 persons in the Soviet republic, there are 1,367 cattle to 1,000 persons (1938/39) in the Buryat Mongol ASSR; and while there are 602 sheep and goats per 1,000 persons on the overall average in the USSR, there are here 1,786. The important livestock-breeding areas lie left [232] of the Selenga and right of the Ude. The breeding of better strains is being carried out according to plan by crossing the Mongol cattle with the Simmentaler and by crossing the native sheep with the Rambouillet-Merino. The steppe region left of the Selenga is thus the breeding ground for improved strains. The livestock here is housed for the winter in warm stalls and fed with prepared feed. The horse, which constitutes

11.7 percent of all the livestock, and also the pig, which constitutes 6.7 percent, play a slight role in the animal economy. The situation of animal breeding in Chita Oblast is similar and has the same favorable perspectives. Dairy farming stands in the foreground here in cattle breeding. In the steppe regions of the Onon and Argun a number of studs also serve horse-breeding. In the same region camels are also bred, whose number is given at 7,000. Transbaykal as a whole is a surplus area both in grain cultivation and in animal breeding. 231 433 [234]

/132/ The following table indicates how very prominent the Buryat Mongol ASSR and Chita Oblast are in animal breeding in the overall economy of the Soviet Union:

On a collective farm in 1938 there were:

	Soviet Union	Buryat Mongol ASSR	Chita Oblast
Horses	0.7	2.0	2.5
Cattle	2.2	6.0	6.5
Sheep, goats	2.9	19.0	11.9

It is different in the Amur and Ussuri country. Animal breeding is insufficient and doesn't even cover the needs of the area. Even horses must be imported. In the southern part of the Ussuri region milk and work cattle are kept; otherwise a dairy cow farming worthy of mention has developed only in the vicinity of the cities. Meadowlands are lacking for the maintenance of cattle on a large scale. On the other hand cattle can be found in isolated cases everywhere, even in the far north. On Kamchatka their number reaches several thousand. The number of pigs in the Amur and Ussuri region is comparatively larger than in Transbaykal since the Chinese and Koreans also keep pigs. The quality, however, is low. In meat supplies, too, the Far Eastern region requires additional imports.

The reindeer breeding in the extreme northeast of the region deserves special attention. The moss tundra extending from the Chukchi Peninsula into Kamchatka offers excellent grazing land. With the European north, these regions stand in first place in reindeer breeding in the Soviet Union, which has contributed in its further development by establishing several reindeer sovkhoz. The number of animals is estimated at a total of approximately 750,000. The reindeer not only provides meat for local needs, but also provides meat for canning, for which a special factory has been erected in Anadyr'. The hides of

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133 the young reindeer are processed for leather and as wild leather (chamois leather) are a product in demand for export.

Hunting

224 The valuable fur-bearing animals, once so numerous, have almost completely disappeared from the settled areas and have withdrawn into the inaccessible wastelands. And, nevertheless, the Far Eastern region with its vast, wild forests is still, even today, a grateful empire of hunters. Approximately a third of the furs acquired in the Soviet Union are won in the Far East. Transbaykal is not so active in this. Squirrels and foxes provide the bulk of the skins ; the sable has been completely exterminated in wide stretches of land and is now only rarely encountered. In the tundra region the Polar fox is the most important animal hunted. /133/ The number of large wild animals has also been heavily decimated by the earlier rapacious hunting. The spotted stag /Fleckenhirsch/, sought because of its "Panten" /unhardened antlers/ and formerly very numerous in the Amur and Ussuri region, occurs now only very rarely in the open hunting ground and is kept today only in animal parks in the Sikhote-Alin'; of these seven are known with several thousand stags. For the protection of the plant and animal world rather large areas in the Sikhote-Alin', on Kamchatka, and on Lake Baykal have been declared nature protection areas.

Hunting for fur-bearing animals is organized by the state and is done from numerous "bases, " where the hunter receives not only his hunting equipment but also other necessities of life, and then goes out to hunt in cadres. In their hunting, these state hunters have to follow fixed instructions, varying from place to place, for the sparing and preservation of the wild life. At the end of the hunting period the skins are delivered to the bases, and the hunter is paid according to his output.

Fishing and Hunting of Sea Animals

226 In Transbaykal, which lies inland, fishing has only a subordinate role. Apart from small lakes, which are, however, rich in fish, the fishing practised professionally is concentrated on Lake Baykal. Its outstanding fish is the omul (Coregonus omul Pall.), a type of salmon, whose spawn is bred and set out. Some fish canning factories in various localities on the coast process the catch not used locally. Not insignicant

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[255]
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Not insignificant

also is the catch of seals (Phoca sivirica), which are preserved in large 225
numbers in Lake Baykal.

Of much greater importance, however, is the fishing in the 226
rest of the Far Eastern region. For the economy of the natives it not uncommonly constitutes the sole or at least the principal source of food. But the Russian settler, too, would not like to miss fish on his menu. Thus everywhere in the Far Eastern region where even a brook extends through the land we find the occupants occupying themselves with supplementing their food needs by fishing. In this the historical development also plays a certain role, for the first Russian settlers found one of the principal sources of food in catching fish. And nature has blessed the entire area with lakes and rives rich in fish. In addition there is the fact that off the entire coast of the Far Eastern region there stretch seas which are likewise exceedingly rich in fish and which belong to the most important fishing grounds on the earth. Year after year innumerable types of salmon in vast numbers come from the sea for the spawning period and go up the rivers and often far into the land, where men wait for them in order to provide nourishment for themselves and for their animals, not only temporarily but also often for the entire year. For the bulk of the coast of the north fishing constitutes /134/ absolutely the sole basis of existence for man. If the coastal strip far into the north is inhabited, this is above all due to the sea and its abundance of fish and sea animals.

The wealth of fish and sea animals of all kinds in the peripheral 228
seas has, through fishing for self-supply by the population on the coast and inland, led to the development of industrially run coastal and high sea fishing, which has become the leading branch of the economy in the Far Eastern region. Through the creation of a state fishing fleet and the equipment of this fleet with modern motorboats, trawlers, and special ships for catching crabs/shrimp and whales, the Far Eastern region by 1938 had won first place within the Soviet Union in terms of its catch. More than a fourth of the total catch of fish and of the canned fish goods in the Soviet Union comes from the Far East.

Catch of Fish in the Far Eastern Region

1913	107,330 tons
1928	161,820 tons
1932	346,800 tons
1937	404,800 tons

228 The total catch from sea fishing in the USSR in 1938 was 1,490,000 tons, of which the Far East contributed 25.2 percent, followed by the Volga-Caspian area with 23 percent. A total catch of 2.2 million tons was planned for 1950. On the whole it was filled only by 96 percent, while the Far East overfilled its quota by 50 percent. Accordingly the Far East's percentage of the total catch of the Soviet Union has grown still more. More exact figures on the individual regions have not been published. A total catch of 3,476,000 tons is planned for 1955 for the Soviet Russian sea fishing industry.

In evaluating the catch of the various areas, however, it must be taken into consideration that in the Far East especially valuable types of salmon constitute the bulk of the catch. Furthermore it should be brought up that because of its small population and therefore its own low requirements, the Far East belongs to the most important surplus area. As a consequence of this development an active fish industry has come into being here. All the larger places on the coast [255] have cold-storage houses. However, there has been a special rise in fish canning factories, whose number has risen from 2 in 1913 to 42 in 1938. At the same time in connection with these, factory installations have been created which produce on the spot the necessary requirement of cans. In addition there are special ships which process the catch right on board. In this connection the ships for catching crabs/shrimp should be mentioned; these ships can be described as floating canning factories. Their work area is the /135/ west coast of Kamchakta. In catch of crabs/shrimp the Far Eastern region has first place in the world.

The coastal area on the Sea of Japan from the Korean border to the Tatar Strait constitutes the most southerly fishing district. Here herring and sardine fishing stand in the foreground. Fishing is done above all in the bays, with the richest catches coming from the Bay of Peter the Great. The center of this and the processing point is Vladivostok, which has a modernly equipped canning industry. In the years before 1938 the catch of herring went in part to the interior and in part to Japan.

The area around the lower course of the Amur constitutes the second fishing district. This great river serves as preferred spawning ground especially for two of the Pacific types of salmon: the beloved Keta salmon (Oncorhynchus Keta Walb), which provides red caviar and is called dog salmon by the Americans; and the somewhat smaller gorbusha (humpback salmon, Oncorhunchus gorbusha Walb). There

are some curiosities in the appearance of these types of salmon, especially the gorbusha. Peter Schmidt has devoted a detailed investigation to them (Osteuropa /East Europe/ 1928, II), and points out that these types of salmon have not multiplied as much as the European types, since they spawn only once during a lifetime and in addition lay only approximately a tenth the number of eggs that, for example, the Rhine salmon lays. Especially interesting, however, is the fact that the appearance of the swarms of gorbusha has a remarkable two-year periodicity. L. S. Berg (27) gives the following figures on the catch of

27. Berg, L. S., Landshaftno-geograficheskie Zony SSSR /The Landscape Geographical Zones of the USSR/, Part I (Moscow, 1931), p. 390.

gorbusha in millions of fish: According to L. S. Berg this two-year

1914	14.5	1921	0.2
1915	1.0	1922	9.0
1916	9.2	1923	0.0
1917	0.5	1924	12.2
1918	14.9	1925	0.0
1919	0.4	1926	14.1
1920	12.0	1927	0.0
		1928	16.4

periodicity in the Amur district developed only since 1908, while no such periodicity has been determined on the coasts of Kamchatka; on the contrary, the Keta salmon appears regularly every year in both regions. As a result of the two-year periodicity of the appearance of the gorbusha there is also a corresponding fluctuation in the total catch of the Far Eastern region. The excess of fishing in the area of the lower course of the Amur is counteracted by artificial breeding of salmon spawn. The center of this fishing district is Nikolayevsk on the /136/ lower Amur, where 75 percent of the total population serves the catching and processing of fish.

The third fishing district is the eastern side of Sakhalin Island, where in addition to the various types of salmon, herring, cod, tuna fish, and mackerel above all are caught. In contrast to the other fishing districts, however, Sakhalin Island falls behind in importance.

The main fishing district of the Far East, which has been de-

228 veloped most heavily in recent years, is the Kamchatka Peninsula. The highly valued Pacific salmon types stand in first place in the catches here: red, silver, and king salmon (Oncorhynchus nerka, Oncorhynchus kisutch, Oncorhynchus tschawytscha Walb). All the rivers on the peninsula and on the neighboring mainland are visited annually by great swarms of salmon, and accordingly the processing is divided among numerous coastal localities, which are discussed in detail in the discussion of the Kamchatka Peninsula. The Sea of Okhotsk off the western coast of Kamchatka appears to be especially favorable to the development of crabs/shrimp/Krabben/which regularly appear in the spring come to the shores from the depths of the sea, where they spend the winter. Therefore, the crab/shrimp-catching fleet is also stationed here. The seas around Kamchatka, especially the Bering Sea, are, in addition, rich in sea suckers /Seesauger/ such as walruses, seals, and whales, although the latter are in the process of dying out. Petropavlovsk, which is the administrative center of the peninsula, constitutes the center of the hunting of sea animals. How very much the rise in the catching of ocean fish and sea animals has influenced the development of Kamchatka is shown best by the increase in population, which in 1914 was estimated to be less than 20,000, which grew to 30,000 in 1926, and which by 1948 had already exceeded 120,000. The surplus of fish caught here is used for the other parts of the Soviet Union, or is available for export, with western Europe as the principal consumer.

A peculiar and typically East Asiatic fishing industry has developed on the southern coast of the Ussuri country. The principal objects of this industry are sea cucumber /Seegurke/ "trepang" (Holothuria edulis) and the sea cabbage/Seekohl/, a kind of seaweed (Laminaria saccharina). The edible trepang is fetched from a depth of 4 to 10 meters with special anchors or by divers. The sea cabbage is torn from the floor of the sea with hooks and comes dried out to the market. Both sea products go to China where they are an especially beloved food.

The entire Soviet Russian catch of ocean fish in the Far East is included in the organization of "Dalrybtrest" (Far East Fishing Trust), which has its seat in Vladivostok. The fishing concessions in the vicinity of the Russian coasts, assured at one time to the Japanese through treaties, have become untenable through the outcome of the last war. It should not be assumed that these treaties will be renewed, and accordingly extensive possibilities of development stand open to the Soviet Russian

catching of ocean fish in the Far East.

000 catching of ocean fish in the Far East.

/137/ Natural Resources and Industry
Coal Supply

Transbaykal

135 Transbaykal in general is not poor in coal, but this coal is divided among numerous individual supplies, which even today are in part removed from transportation and which are highly variable in quantity and quality. As a rule these coal deposits are all of Jurassic age and should be classified predominantly as brown coal in quality. There is no real hard coal in Transbaykal. The most important coal deposits are the following:

1. Tarbagatay, on the right side of the Khilok in the valley, between the Tarbagatay and Tolboga stations on the Transbaykal railroad. The Jurassic brown coal with a heating value of 4,979 calories lies in two seams, 8 meters and 4 meters thick, which are separated from one another by a 9-meter thick layer of earth. The entire supply is declared to be 50 million tons. The exploitation began already in 1890, and is at present carried out in several shafts; water break-ins make the work very difficult. Annually 200,000 to 250,000 tons are extracted.

2. Khalyarta. The coal lies in a terrace in the valley of the Tolboga, a tributary of the Khilok; the mines are 12 kilometers from the Tolboga station and 17 kilometers from the mines of Tarbagatay. The quality of the coal is the same as that of Tarbagatay, only the seams are less thick (4.5 meters and 5 meters). A branch railroad line connects the mines with the Transbaykal Railroad. The total supply is 1,335,000 tons.

3. Chernovskoye, 18 to 20 kilometers west-southwest of Chita, in the vicinity of the Chernovskoye station, where a city with more than 10,000 inhabitants has come into being. The coal lies in the valley of the Ingoda, on the left side of the valley between the two tributaries, the Chernovka and the Kadala, from which the coal apparently continues as far as the city of Chita. The brown coal, which has 5,000 to 5,400 heating calories, is of higher value than the coal in other deposits. Of the five seams, three, which are 1.0 meters, 2.5 meters, and 5 meters thick, have been exploited since 1914. They were begun with open work, but because of the climatic conditions they have now been turned into underground mines. The entire supply

135 has not been determined exactly; the claims range between 19 and 33 million tons. Before the war the annual production reached 450,000 tons, but now, along with the mines of Bukachacha, these mines stand at the top in production in the Chita Oblast.

4. Kharamangutsk. The coal deposits lie approximately 4 kilometers from the Darassu station on the Transbaykal Railroad in the vicinity of the locality Kharamagutsk. The Jurassic brown coal lies in two seams worth mining; of these the upper seam, which is 1.8 meters thick, is being worked by two mines.

/138/ 5. Kholbon, 20 to 25 kilometers west-southwest of Nerchinsk, on the left bank of the Shilka, where the deposit with a width from 5 kilometers to over 8 kilometers extends along the river. Several mines supply the Jurassic brown coal with a heating value of 4,615 to 5,231 calories from the first and fifth seam, which are 2.5 meters and 14 meters thick. Both open-work and underground mining are used. The other seams are not worth mining.

6. Bukachacha is the most important coal deposit in Chita Oblast. It lies north of the Transbaykal Railroad in the valley of the Bukachacha River and covers an area of 25 square kilometers. It is connected to the Transbaykal Railroad by a branch railroad line 41 kilometers long, which was built in 1929. In all, nine seams have been determined, of which the largest is 6 meters thick. These nine seams, however, don't appear everywhere, and vary greatly in their stratification and quality. Tectonic occurrences have transformed a part of the Jurassic brown coal into a type of hard coal, which is also supposed to be suitable for making coke. Before the war four shafts were worked in underground workings, which were considerably expanded by new installations after the war. Bukachacha today stands at the top in production in Chita Oblast. The total supply is claimed to be 80 to 100 million.

7. Khara Nor, southeast of Borzya, approximately 2 kilometers from the Khara Nor station. The brown coal of Jurassic age here lies in a dry valley, 8 to 10 kilometers wide, under a Post-Tertiary covering of less than 20 meters. All told there are 10 seams here, but of these only two, which are 5 meters and 15 to 17 meters thick, are worth mining. The supply is numbered at 11 million tons. The heating value, which is 5,660 calories, is above that of the usual brown coal. Above all, special attention is called to the high content of volatile elements, which constitute 60 percent and which make the coal especially suited for use for the chemical industry. Mining was begun but then later

stopped. There are no reports on the present situation.

8. Duroy /possibly: Dauriya?/. The deposit is in the extreme southeast of Transbaykal and stretches along the Argun between the localities of Duroy and Kaylastuy. Three seams, which are 0.5 to 1.5 meters thick, extend here over an area of 20 to 25 square kilometers. The quality of the brown coal, which has a heating value of 5,254 calories, is good. The total supply is estimated at 30 million tons.

Still other brown coal deposits have been found on the Argun, but nothing is known of their size and quality.

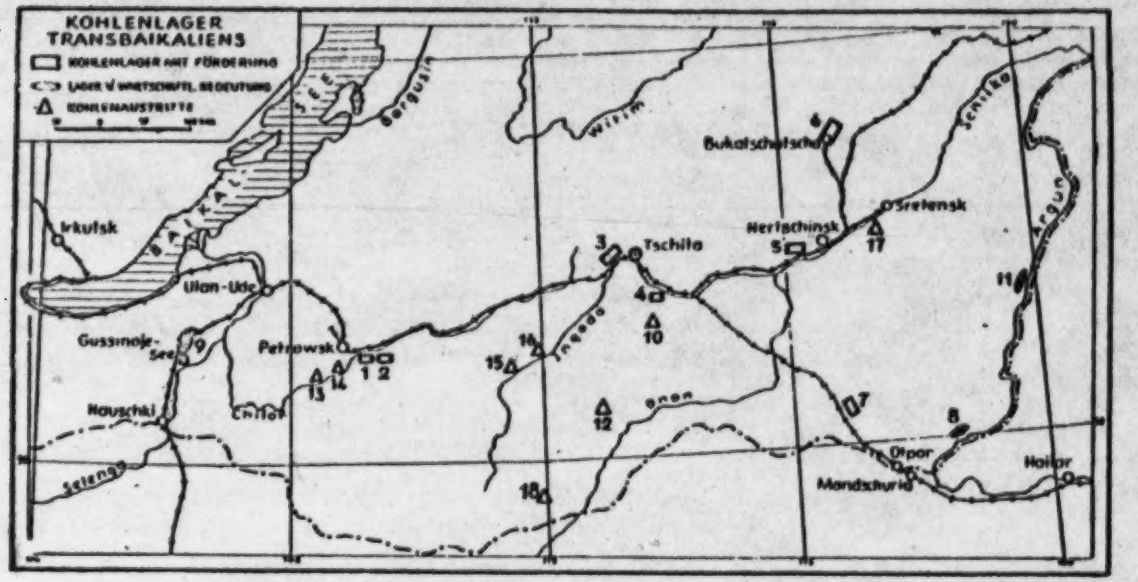
9. Gusinoye Lake. Only in the last few years, after World War II, have the size and importance become known of this deposit on the well-known "Goose Lake" in the Buryat Mongol ASSR. This deposit extends over a great distance northwest and southeast of the lake. All told seven seams, which are 0.80 meters to 9.25 meters thick, have been found. The total thickness of the seams worth mining is supposed /139 Sketch Map of the Coal Deposits in Transbaykal:/ /140/ to be 23 meters. The total supply is estimated to be 200 to 250 million tons. The quality of the coal suffers from the high ash content. In addition to the chemical industry, which has come into being on the Gusinoye Lake, the extraction of this coal is supposed above all to supply the railroad from Ulan-Ude to Ulan Bator. A power station based on this coal is already in production near Tomcha.

Still other supplies are known in addition to these most important coal deposits, but these others have still not been explored sufficiently, and there are no statistics available on them.

Amur Region

In contrast with Transbaykal, the Amur area has coal deposits which have the character and quality of hard coal, although these deposits are also Jurassic formation. The causes for this rise in quality in comparison with the Transbaykal coal cannot be ascertained everywhere in detail. It only remains to follow the sources and to give the corresponding figures. In general the Jurassic coal deposits in the Amur region are very strongly involved in the faulting process, and are divided into a large number of small deposits by elevations, depressions, and breaks along with the ensuing wearing down of anticlines. However, despite this splitting up, these small deposits, for the sake of a survey, can be classified together in individual large basins. Contiguous coal

/Sketch Map of the Coal Deposits in Transbaykal:/



- coal deposits with mining
- deposits of economic importance
- appearances of coal (Kohlenaustritte)

/1389/

1. Tarbagatay; 2. Khalyarta; 3. Chernovskoye; 4. Kharamangutsk; 5. Kholbon; 6. Bukachacha; 7. Khara Nor; 8. Duroy; 9. Gusinoye Lake; 10. Tyrgetuy; 11. Chalbucha; 12. Ureya River; 13. Katayeva; 14. Kuli; 15. Klyuchevsk; 16. Gorekinskoye; 17. Matsiyevskoye; 18. Brytse River.

S: Thiel--155 K-45(no date) 1953 RE: Siberia RR1

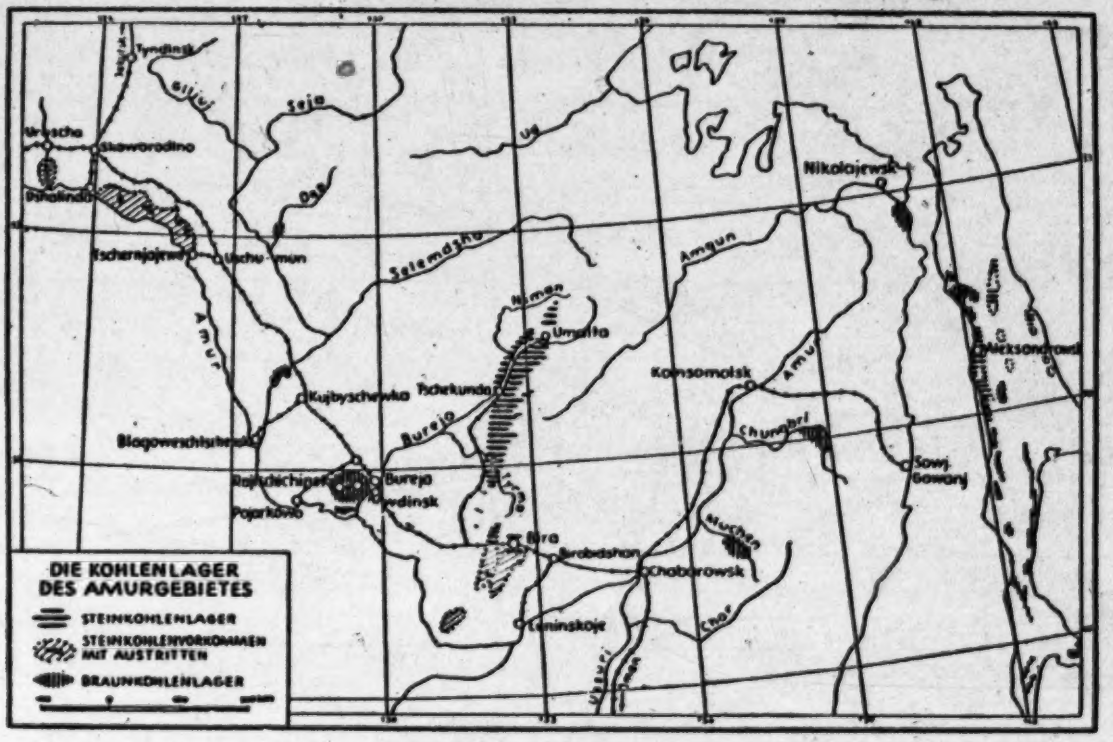
135 fields of a more or less large size occur only rarely.

Hard Coal Deposits

1. Birobidzhan. The hard coal deposits here are a continuation of the Hegan coal fields in the Lesser Khingan, which extend from the Manchurian side over the Amur toward the northeast. In Birobidzhan these coal fields appear in numerous small deposits in a total area of 250 square kilometers. The most important deposits are near the city of Bira on the Amur Railroad and extend above all in the valley of the Turuk (Russian Birsko-Turuskoye Deposit). Near the Bira station the coal appears at the surface in a "coal mountain" and is mined here in three seams which are 0.75 meters, 0.70 meters, and 2.10 meters thick. A second deposit lies near the Londoko station and extends toward the north in the valley of the Kamenushka. The other deposits are insignificant.

2. Upper Bureya. Here are the largest coal deposits in the Far East in terms of area and supply. They extend over a total area of more than 4,000 to 5,000 square kilometers, and in this the geological border has still not been exactly determined. The coal-bearing layers extend only slightly on the right side of the Bureya and are limited here in the bulk to a long stretch of 180 kilometers in the region between the Umalta and the Niman. On the left /141//Sketch Map of the Coal Deposits in the Amur Region/ /142/ side of the Bureya the deposits have a greater width; for example, at the tributary, Urgal, seams are found up to a distance of 65 kilometers from the mouth. The complexity of the stratification, caused by tectonic formations, is a great handicap both in exploring and also in exploiting the deposits. The conditions appear most favorable in the central Urgal valley, secondly in the Yorekso-Olonzhinsk Rayon, and thirdly along the Bureya from Ust'-Urgal to Ust'-Niman. Here up to 20 seams have been determined, but of these only nine, with a total thickness of 40 meters, are worth mining, and they lie up to 600 meters deep. The coal-bearing layers otherwise have in general a thickness of more than 1,000 meters. The quality of the coal varies and ranges in heating value (Yorek deposit) from 6,043 calories to 8,018 calories. Numerous tests and trials have shown that a large part of the deposit can be used as coal for coke; however, the high ash content occurring in many cases forces the use of special methods. The geological total supply is given at 60 billion tons, of which 45 billion belongs to the upper Jurassic and 15 billion to the Lower Cretaceous.

Sketch Map of the Coal Deposits in the Amur Region:



hard coal deposits

hard coal deposits and where they come to the surface /Steinkohlenvorkommen mit Austritten/

brown coal deposits

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/141/

3: Thiel--157K-4.5 (no date) 1953 RRI Siberia RRI

More recent investigations have even estimated the possible total supply at 120 to 130 billion tons. (8) 135

8. Energeticheskie resursy SSSR /The Sources of Energy in the USSR/, 2 vols., (Moscow: Academy of Science, 1937 and 1938), Vol. I, p. 80.

3. Tyrma Basin. This coal basin is a continuation of the deposit on the upper Bureya and is separated from that deposit only by tectonic occurrences with subsequent erosion. The main deposit is on the Bureya. The coal-bearing layer has a thickness of approximately 400 meters and, in addition to various seams of little value, it contains two seams whose thickness varies locally between 1.5 meters and 5.0 meters. The quality of the coal is supposed to be inferior to that in the basin of the upper Bureya. Apart from this, however, it has industrial importance because of its nearness to the Amur railroad.

West of the Bureya, hard coal occurs only in small deposits, for example on the Dep River, 45 kilometers before it empties into the Zeya. The deposit has a supply of only 490,000 tons and is used for supplying the Zeya River ship transportation. An additional, large deposit on the upper Amur has only recently come to the foreground in interest. It stretches along the Amur, and appears in the valley basins of the Amur tributaries, the Urusha, the Kerak, the Burinda, and the Magdagachi with numerous appearances on the surface. Having a mean heating value of 5,064 calories, its quality is slight, but some seams in spots have the character of anthracite and semi-anthracite. Mining was begun in 1947 at Magdagachi.

Brown Coal Deposits

1. Lower Bureya. These are the largest brown coal deposits in the Amur region. They stretch from the lower course of the Bureya in the east to the /143/ Savitaya in the west between the Amur River and the Amur Railroad. They are of the Tertiary period (Miocene and Pliocene), and as a rule, they form only one seam with a thickness of 2 to 7 meters with a mean thickness of 6 meters. The brown coal is in part extracted in open workings. The most important mines are near Kivdinsk and in Raychikhinsk, whose productions before the war reached approximately 700,000 tons for the two mines together. After the war new installations with a production capacity of 250,000 tons

135 were created. An inadequacy lies in the fact that the brown coal is very damp in the earth, and, when exposed to the air, it disintegrates in parts into fine grains like sand. The total supply is given at 510 million tons, of which 245 million tons fall in category A-1.

2. Mukhen Deposit, in the basin of the Mukhen River, 130 kilometers northeast of Khabarovsk. Here two seams have been determined with a thickness of 1.6 meters and 3.2 meters; these seams lie only 7 to 10 meters under the surface. The quality is not outstanding and comes close to being a type of lignite.

3. Khungari-Deposit in the area around the middle course of the Khungari River, which empties into the Amur below the Mukhen. The Tertiary coal deposit was discovered only in the 1930's. It constitutes two seams, each 2 meters thick, whose coal has a heating value of 4,017 calories and 5,179 calories respectively.

4. Naloyevskoye Deposit, which also has been discovered only recently. The coal lies on the shore of the Tatar Strait, approximately 20 kilometers south of the mouth of the Amur.

Maritime Krai

The Maritime Krai is relatively better explored than the other regions in the Far East. Therefore, much more can be said about the coal deposits in this area. All told 69 hard coal deposits and 38 brown coal deposits are known to date. In terms of quality, all types of coal exists here, from anthracite to brown coal. Characteristic of this region is the variable stratification with many deposits extending over a large area while others are smashed into smaller individual deposits by tectonic occurrences. The majority of all deposits lie in synclines with stretches predominantly toward the northeast. The coal deposits can be grouped into three groups according to their geological age. The oldest stems from the Upper Triassic (Mongugay Series) and constitutes anthracite and semi-anthracite. The second group, which is of much greater importance, belongs to the Upper Jurassic (Nikansk Series) and to the Lower Cretaceous and contains hard coal primarily. The Tertiary brown coal is reckoned in the third group. However, the age does not always correspond to the quality, since the value of much coal has been changed by tectonic strains. Thus /144/ it comes about, for example, that the Tertiary brown coal of Tavrichanka is very close in quality to hard coal.

Within the coal-bearing Mongugay Series of the Upper Triassic,

three independent coal fields are prominent: the Maikhe-Pochikhe deposit, the Mongugay deposit, and the Razdolnaya deposit.

1. The Maikhe-Pochikhe deposit. This deposit lies between the Maikhe River, which flows toward the south into the Ussuri Bay, and the Pochikhe, a left tributary of the Suifun, and is north of the railroad line which runs from Ugol'naya on the Ussuri railroad to Suchan. Best known is the eastern part between the localities of Surazheyevka and Radchikhinsk. The coal-bearing layers here lie in an asymmetrical syncline which extends over an area of 30 square kilometers; these layers comprise an estimated supply of 300 million tons. Only a small part has been explored with the resulting discovery of five productive seams, with a total thickness of 5 to 6 meters. The heating value lies between 8,616 and 8,757 calories. The heavy interlarding /Durchschichtung/ with dead material and the high ash content, however, lower the quality. The western branch of the deposit directly adjoins on the north the Tertiary brown coal deposit of Artem and stretches from the little river Babalyanso to the Pochikhe. Here, too, the coal-bearing layers lie in a syncline, which here, however, is heavily distrubed. Control prospecting locally have shown three productive seams with a thickness of 1 to 3.3 meters. The heating value, which is 7,646 calories, is somewhat less than in the eastern part of the deposit, but on the other hand the ash content is not so great. Some difficulties for exploiting this deposit lie in the complicated tectonic structure. The total supply of the western part is estimated to be 300 to 400 million tons. Mining until now has still not taken place. However, the beginning of mining is foreseen for the near future.

2. The Mongugaya Deposit is in the southwestern part of the area between the coast of the Amur Bay and the Manchurian border, approximately opposite Vladivostok. It is divided into several individual deposits, which correspond approximately to the river basins of the Mongugaya, Amba, and Bira and which contain a total supply of 200 to 250 million tons. Of the eight seams, however, only three are industrially valuable; they have a thickness of 0.5 to 2.0 meters. The quality of the coal is the same as that of Surazheyevka and has the shortcoming that pure coal is found here, too, only in the small central part of the seam. Mining is not done and is also not foreseen.

3. The Razdolnaya Deposit begins at the Razdolnaya station on the Ussuri Railroad and extends toward the northeast as far as the Zuputnika River. In terms of the area covered it is the smallest of the three Triassic coal deposits. However, it is still very little

135 investigated. Natural outcroppings of coal have been determined in numerous places where productive seams up to 1 meter thick are visible but show a sharp fall /starkes Fallen/.

/145/ /Sketch Map of the Coal Deposits in the Vladivostok Area:/

Besides the three large coal deposits of the Upper Triassic mentioned above, supplies of the same age have been encountered in numerous places along the western foot of the Sikhote-Alin', especially also on the right tributaries of the Ussuri. The Boreal Sea which at the beginning of the Triassic period penetrated in a narrow arm from the north into the area of the present-day Ussuri-Khanka depression as far as the extreme south, slowly withdrew again to the north at the end of the Triassic period.(3) In the process the sediments of the

3. Atlas energeticheskikh resursov SSSR /Atlas of the Sources of Energy in the USSR/, Collected work under the editorship of A.V. Vinter, G.M. Krzhizhanovskii, and G.I. Lomov, 2 vols, (Moscow-Leningrad, 1934), p. 7.

Boreal Sea changed from marine deposits to lagoon ones to the continental coal-bearing Mongugaya series, to which the three above-described larger coal deposits belong. Since the deposits of the Upper Triassic extend along the western side of the Sikhote-Alin' in a broad zone, it can be assumed that coal supplies of the same age will also be found further in the north. This is also indicated by the coal findings already mentioned in the area of the right tributaries of the Ussuri; these findings to be sure were made only on geological route surveys.

/146/ The coal deposits of the Upper Jurassic and the Lower Cretaceous have a greater importance than those of the Upper Triassic. In the majority of cases they deliver an excellent fat coal suitable for making gas and coke. The most important and most valuable supplies are concentrated in two large basins: the Suchan Basin and the Suifun Basin.

4. The Suchan Deposit stretches in a syncline with a northeast direction /mit Nord-Ost-Streichen/, and the bulk of it extends on the right side of the Suchan River up to 40 kilometers before the mouth of the Suchan. With a length of 56 kilometers and a mean width of 25 kilometers, the deposit extends over an area of 280 square kilometers. The total supply exceeds one billion tons. Under an unproductive layer consisting of sandstone and conglomerates

3: Thiel—162 K-4,5 (no date) 1953 RR1 Siberia RR1

Sketch Map of the Coal Deposits in the Vladivostok Area:

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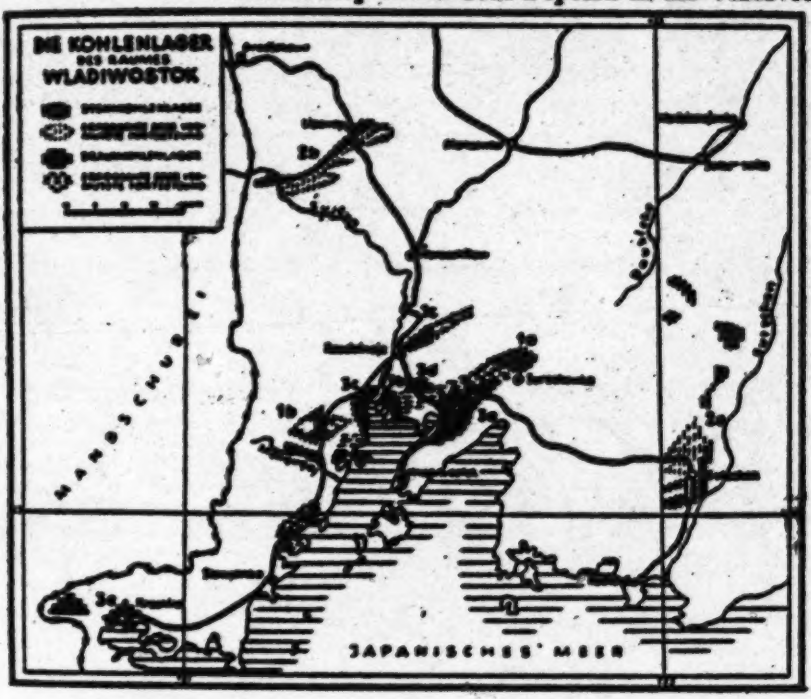

hard coal deposits
explored or conjectured continuation
brown coal deposits
explored or conjectured continuation

The Coal Deposits according to their Geological Age:

Triassic: 1 a Maikhe Pochikhe deposit; 1b Mongugaya deposit;
1 c Razdolnaya deposit

Upper Jurassic--Lower Cretaceous: 2 a Coal deposit of Suchan;
2 b Suifun deposit.

Tertiary: 3 a Artem-Ugol'naya; 3 b Tavrichanka; 3 c Fedorovskiy;
3 d Ippolitovka; 3 e Kraskino.

/Konglomeraten/ and extending up to 1,500 meters on the axis of the syncline, lie three coal-bearing series, which are 300 meters, 150 to 250 meters, and 400 to 500 meters thick. The upper coal-bearing layer contains six seams with a thickness of 0.4 to 6 meters. Within the individual seams the thickness varies greatly; thus, for example, in the second seam from the top, the "Velikan," the thickness ranges from 0.7 to 6 meters. In the second series are more than eight seams, which in the mean are all more than one meter thick. In the third coal-bearing layer there are four additional productive seams, although their thickness and also their quality declines quickly as they get deeper. The coal deposit of Suchan was already discovered in 1888, and mining was already begun at the end of the last century, primarily in order to supply the Russian navy. As at Suchan, the center of the coal mine, the mining installations to date lie in the southeastern wing of the coal-bearing syncline. In 1933 nine shafts were working. Since then more have been added to these. In the last few years the mining has produced more than 500,000 tons. Suchan is connected with the Ussuri Railroad in Ugol'naya by an 180-kilometer long branch line. A second railroad leads from Suchan toward the south to the coast and ends at Nakhodka on the bay of the same name. The excellent quality of the Suchan coal assures the area a development rich in prospects, and, with increased production, coal for export is a possibility, especially export to Japan and China, which are not richly supplied with good coke coal.

5. The Suifun Coal Deposit, in terms of the area it covers, is the largest hard coal supply in the Ussuri country. It covers more than 3,000 square kilometers, and, approximately in the form of a large right angle, extends between the Manchurian border and the Ussuri Railroad. The middle Suifun flows across it on the diagonal. The northern border of the coal-bearing basin is formed by a long Paleozoic granite batholith, which extends under hilly country from Faddeyevka on the Manchurian border via Vladimirovka and Lipovtsy to the east. In the east the basin, in the form of a deep bay, crosses the Ussuri Railroad via Voroshilov /147/ and ends at the Rakovka River, a left tributary of the Suifun. The Yandsogou River can be considered as the conditional southern border, since south of this river the coal-bearing layers are covered over by a continuous basalt covering and the outcroppings of coal are no longer to be determined. The entire coal supply within the Ussuri country is only the eastern spur of a mighty coal deposit whose main part lies in Manchuria and there

135 reaches as far as Kirin--on the Sungari. The diagonal of the Suifun divides the coal basin in Soviet Russian territory into two parts, a southwestern and a northeastern part, and the two parts are sharply differentiated from one another by the character of the relief and also by the degree of economic-cultural development. The southwestern part forms a mountain tableland country with the original basalt covering being divided by heavy erosion into numerous tableland-mountain-like elevations; the coal-bearing layers appear only between these elevations, primarily in the erosion valleys. Because of its remoteness and its slight connection with the transportation system, this area is very lightly populated. The northeastern, left-bank part of the Suifun basis presents an entirely different face in terms of its landscape. It is free of any basalt covering, its relief forms shallow waves, its soil is fertile, its agriculture cultivates predominantly technical plants, and it is thickly settled. In addition, this region is crossed by the Manchurian Railroad, and in the east also by the Ussuri Railroad; the two railroads meet in Voroshilov. Furthermore excellent loam and limestone are diffused in a large measure in this part, and accordingly the industrial opportunities are especially favorable. Tectonically the coal basin represents a broad, rather flat syncline, which stretches from west to east with the incline steeper in the north, while, on the other hand, it is flat in the south. The basin is filled by two series of Lower Cretaceous, of which, however, only the lower one is coal-bearing. More exact knowledge of the stratification is known only for individual areas, where mining is already underway. Thus at Konstantinovka on the Manchurian border, where coal has been extracted since 1888, there is a seam with a thickness of 1 to 2.5 meters, in addition to some unimportant seams. This seam corresponds to the same coal layer of Ilyichevka, Vladimirovka, and Lipovtsy, all three of which lie on the northern edge of the basin, but here the coal layer reaches a thickness of 3 meters and more. On the eastern edge of the basin where coal is mined in a shaft in Nadezhdinsk three to four kilometers east of Voroshilov, two seams, each 3.5 meters thick, are used; in places these two seams merge into a single coal layer. The total supply of the Suifun deposit is given at 4 billion tons. Since all the shafts and prospectings to date have penetrated only into the upper part of the coal-bearing layer and since geologically these correspond to the upper coal-bearing series of Suchan, still larger deposits are expected to be found /148/ at greater depths, and if this conjecture is confirmed, the total supply would be increased two to threefold.

The quality of the Suifun coal is described as excellent for liquifying coal, and its purity is particularly outstanding. The total amount produced by this mining district is still insignificant and reaches 200,000 to 300,000 tons a year. In this Konstantinovka stands in first place.

The Tertiary brown coal is represented in numerous basins. The most important deposit stretches along the railroad lines to Suchan and extends in a great width from the Ugol'naya branch station approximately 18 kilometers to the east. It covers an area of 180 kilometers and contains several layers with a total thickness of 12 meters. Artem lies in the center of this brown coal region. In coal extracted the Artem area exceeds by threefold the Suchan production of 1938. West of Artem the same deposit is also mined in Ugol'naya and Uglovoye. The total supply is given at 1.5 billion tons. In second place the brown coal deposit of Tavrichanka should be mentioned, which lies on the Rechnoy Peninsula in the northern part of the Amur Bay. The quality comes close to that of hard coal. Approximately 150,000 tons of coal are extracted annually in Tavrichanka, which is connected with the Ussuri Railroad by a 12-kilometer long line. Adjoining Tavrichanka directly on the west is another brown coal deposit, which has six productive seams with a total thickness of 8.20 meters. In the center of this deposit lies Fedorovskiy. Of still greater importance is the brown coal of Ossinovka. This deposit, comprising more than 20 million tons, lies 12 kilometers south of Ippolitovka station, 135 kilometers away from Vladivostok. It consists in the main of a single layer of brown coal, which is up to 19 meters thick and of which a significant portion can be mined in open works without difficulty. The brown coal deposit in the surroundings of the Pos'yet Bay in the extreme southwest is also worth mentioning. Mining also takes place in Kraskino.

Sakhalin

Salkhalin's coal deposits in general have been very little explored. However, the previous determinations justify great hopes. The coal supply lies in three great fields. Best known is the so-called western coal field, which, according to the results of research to date, probably also represents the main supply. It extends along the west coast, lying principally between this coast and the western mountain chain. The coal is of Tertiary age, but because of tectonic stresses it

/35 comes close to the quality of hard coal; indeed, according to individual reports, the coal in part is even supposed to be equal in value to the best type of European hard coal. Accordingly, the coal deposits of the Lower Miocene and of the Upper Oligocene, which /149/ the western coal fields consist of, are designated as hard coal in Russian publications, and in terms of its quality the coal is described as gas and coke coal. The coal fields begin approximately 35 kilometers north of Aleksandrovsk, and are divided into more than ten rather large individual deposits, which in most cases lie on the wing of a syncline filled with Tertiary. The value of the individual deposits varies, and both the number of seams and their thickness fluctuates. Thus in the Machinskoye coal deposit, the most northerly, there are seven seams with a total thickness of only 5 meters, while eight productive seams with a total thickness of 20 to 25 meters lie in the Ust'-Agnevo deposit. The geological supply of the western coal fields is given at at least 2.5 billion tons. The mining of these fields began in part before 1931 in individual deposits, for example, in Mgachi, Starovladimirskoye, Arkoza, Makaryevskoye, Oktyabr'skoye, Medvezhinskoye, and other places. By 1933 the total production had already reached more than 250,000 tons a year. Since, however, at that time some deposits were given as a concession to Japan for exploitation, an estimate of 500,000 tons of coal mined at present is not too low. The center of the coal mining region is the already mentioned Aleksandrovsk.

The so-called central coal field should be named in second place; it extends in the depression between the two mountain ridges in the basins of the Tym' and Poronay rivers. Here, too, is Tertiary coal. Nothing is known of the size and supplies of these coal fields since they, too, were only discovered in very recent times. A long and heavily disturbed third coal field stretches in the western mountain range almost parallel to the coast. The coal-bearing layers of this coal field are formed from the Gilyak series of the Upper Cretaceous. This coal area, too, is to date known and investigated only in individual parts; however, the widely-scattered numerous outcroppings in the mountain range permit us to conclude that there is a significant coal supply. Nine productive seams with a total thickness of 10 to 12 meters have been determined in the basin of the Nay-Nay River. In terms of quality the coal here is designated fatty hard coal, but it does have a high ash content.

Considering the great diffusion and mighty development of the

Tertiary on the island, and that geological research is still slight in many cases, it is to be assumed that still other coal deposits will be discovered. Thus, for example, it has been determined that the western coal field continues on the coast toward the north; however, in the process --conditioned by tectonics--the character of the Tertiary coal changes and becomes looser, less valuable brown coal and lignite.

The coal deposits on southern Sakhalin will be discussed in detail in the discussion of the island in the second part of this work.

/150/ Kamchatka and the Northern Regions

Extensive brown coal deposits have very recently been discovered on the western coast of Kamchatka; these deposits stretch from the Sopochnaya River in a broad line over several hundred kilometers to the north of Palana. The coal-bearing layer apparently belongs to the Lower Oligocene. The entire Tertiary layer complex is laid in a fault stretching meridionally and is disturbed also in the same direction by breaks. In the upper part of the coal-bearing series productive seams have been found with a thickness of 1.7 to 2.75 meters. The brown coal is strongly bituminous. At Palana, for which which there is more information, eleven seams with a total thickness of 23 meters have been determined. As at Korff Bay these seams change in quality from lignite in the upper layers to better brown coal in the deeper deposits. There is still no mining done here, but mining can become of very great importance for coastal shipping and also for the local fishing industry.

An additional brown coal deposit has been discovered on the west coast of the inner Penzhina Bay. This deposit is supposed to be the same in age and quality as the deposit in west Kamchatka.

Of considerable economic importance even at present are two coal deposits on the coast of the Bering Sea, at Korff Bay and at the mouth of the Anadyr'. The deposits on Korff Bay stem from the Lower Miocene and consist of eleven seams worth mining, with a total thickness of 20 meters. The mean heating value reaches only 4,160 calories. The supplies are numbered at 100 million tons. The center of the mining is Ugol'naya. The brown coal at the mouth of the Anadyr' is divided into three deposits, of which the best known is the one on the little river, the Ugol'naya, which empties into the Anadyr' Bay from the left. This deposit on the Ugol'naya River has two seams which are 1.5 meters and 5.8 meters thick. Here, too, mining is being done

135 which is of greatest importance for supplying shipping. Korff Bay and also the mouth of the Anadyr' are, therefore, especially important bases for the Northern Sea Route.

Total Production. The amount of coal mined in the Buryat Mongol ASSR and in Chita Oblast cannot be given with certainty. The estimate given above of 3 million tons mined in 1950 is considered somewhat high. In the other Far Eastern regions mining is being pushed very hard. By evaluating all reports, it can be assumed with certainty that production has reached a total of 13 million tons. In this the mining in Korff Bay and in the Anadyr' area must be very insufficient, because press reports complain of a coal shortage in the entire area of the Okhotsk coast and in the extreme northeast, with the result that hundreds of thousands of tons had to be transported there from the southern coal districts. How far the Russians have succeeded in /151/ getting the Japanese coal mines in southern Sakhalin back into operation cannot be said. Before the war these mines delivered 2 million tons a year, of which 75 percent was used in Sakhalin itself and only 500,000 tons were exported to Japan.

Petroleum

The search for petroleum on the continent has thus far been in vain, although Tertiary deposits, which could above all awaken hopes, are also widely diffused here. However, these show themselves for the most part to be continental formations. Certain hopes are still placed on the Amur area. Petroleum deposits and supplies have to date only been found on the extreme edge of the Far East--on Sakhalin, Kamchatka, and further in the peripheral north, where the appearance of petroleum appears possible in the Anadyr' depression and parts of the Chukchi Peninsula because of their geological structure.

Sakhalin

The first reports of petroleum supplies on Sakhalin go back to 1880. Investigative drillings began already in 1892. Worthy of mention in this connection is the work of a German by the name of F. F. Kleis, who founded a German-Chinese company and who contributed significantly to the development of the oil area from 1898 to 1914. With the outbreak of the world war he was expelled, and the work was stopped. A Russian and an English company were also working

at the same time with him; however, the results in general were of slight economic importance. In 1920 the Japanese occupied the island. They recognized the value of the petroleum deposits and immediately began to exploit them. By 1923 already 1,252 tons had been produced. After the withdrawal of the Japanese, a geological investigation of the island was conducted in 1925 in connection with the petroleum supplies, and at the same time the Soviet Union began the planned exploitation of the petroleum fields.

Natural outcroppings of the petroleum are widely diffused in the eastern coastal plain and extend in a zone from Okha in the north to Okumi in the south. In many places they represent mighty accumulations of asphalt or form tar-like deposits in the so-called asphalt lakes. The bulk of the surfacing is connected tectonically to the continuation of the eastern anticlinal fault of the East Sakhalin mountain range. Natural outcroppings are very rare on the western coastal plain and are known only in the most northerly part near Langry.

The bulk of the petroleum lies under the east coast. Here a total of six deposits can be differentiated; they follow one another from Okha in the north along the coast to approximately the latitude of Aleksandrovsk. The oldest and best known of the deposits is that of Okha. It lies on the western shore /152/ of the Urkt Bay and extends to the south as far as the Gilyako-Bunan River. Here up to sixteen oil-bearing horizons have been determined, of which, however only four in the main deliver oil. The two uppermost horizons are already cut into by erosion and have no economic importance. The third, which lies right under the surface of the earth, has caused the formation of the "Great Asphalt Lake" in a natural outcropping on the Beryakan River; the "Great Asphalt Lake" covers an area of 3 hectares, and the pure asphalt mass has a thickness of 0.5 to 1.5 meters. The upper layer of this mass is hard, but in the summer heat it softens up so much that one cannot enter the "lake." The thickness and also the oil yield of the individual horizons varies from place to place. Only the thirteenth horizon has sufficient gas pressure for a gusher to produce for a short time a quantity of 500 tons per drilling and per day. In addition to oil, natural gas is also extracted in Okha, with the quantity produced per drilling and per day fluctuating between 5 cubic meters and 2,500 cubic meters. The productive drillings in Okha extend down as much as 760 meters.

Approximately 10 kilometers south of Okha lies the center of

135 the next oil field, that of Ekhabi. It stretches between the Gilyako-Bunan and the Khutska Rivers. In the tectonics of the deposit the anticlinal structure of Okha is repeated, but here the deposit is divided into three deposits by cross breaks, which follow one another from north to south. In the last years before World War II the northern part of the oil field of Ekhabi was opened up, and thereby it was determined that Ekhabi is a far richer and more productive field than Okha. The corresponding horizons often produce many times as much as those of Okha. The increase in production is remarkable: it grew from 62,763 tons in 1937 to 165,900 tons in 1938. It is hoped that the extraction in Ekhabi can still be increased and can be maintained for many years. The depth of the drilling in 1938 lay between 650 and 700 meters.

South of the Kydylanya River, which empties into Pil'tunskiy Bay, there begins another oil area, which reaches as far as Chayvo Bay and which usually is grouped under the name Kydylanya-Chayvo-Oil-District. The most important fields from north to south are as follows: Paromay, Pil'tun, Nutovo, Garomay, and Baotasyn. In this oil district the oil-bearing horizons in many cases, lie deeper than those in the Okha and Ekhabi area because of dislocations; but the horizons at the Kydylanya-Chayvo Oil District are connected to the same anticline: only the tectonics become more complicated toward the south. In the southern part there are even two oil-bearing anticlines. In the vicinity of Nutovo there are several asphalt lakes, of which the largest contains 11,000 tons of asphalt. South of the mouth of the Tym' begins the Nyysko-Nabilskiy Oil Region, which got its name from the bays lying on the coast. Here, too, several oil fields have been determined, among which the Katangli field stands in first place. Some exploratory drillings in this field resulted in such a /153/ spurt of oil that extraction was begun in 1937. Four other fields are of industrial importance. The deposits here are connected with two anticlines, with the oil-bearing horizons being the same as those at Okha and Ekhabi.

On the western shore of Sakhalin in the extreme north two oil fields were found, and exploitation here too was begun immediately, because of their favorable location in terms of transportation. The first field, which bears the name Langry, lies 20 kilometers above the Langry River, and the second field lies approximately 15 kilometers to the north on Lake Sladkoye. Both fields belong together tectonically, and both have the same oil-bearing horizons. Here, too, the flanks

of the anticlines are the bearers of the oil. Langry lies scarcely 100 kilometers away from Nikolayevsk on the Amur, and it is understandable that production in both fields is therefore being strongly pushed.

In contrast to northern Sakhalin, the southern part of Sakhalin, which was Japanese until 1945, appears to have no oil deposits worth mentioning. Although the Japanese employed the most modern research methods here, they only succeeded in finding traces of oil or small supplies, which did not seem worth while to exploit.

Kamchatka and the Northern Regions

Natural outcroppings of petroleum have been known on the east coast of Kamchatka Peninsula since 1913. Explorations, however, have only led to the finding of one oil field. It lies in the northern part of Kronotskiy Gulf, approximately 60 kilometers from the coast in the valley of the little Bogachevka River, from which the oil field got its name. The Tertiary deposits (Oligocene-Miocene) in the Bogachevka area are, however, covered over by a Quarternary lava layer which is 500 to 600 meters thick; the Tertiary deposits come to the surface only at the exit of the valley, where oil-bearing layers are encountered, but only slight quantities of oil and gas are produced by these layers. Exploratory drillings, which have been made within the lava fields by making use of fissures, have indeed brought indications of extensive deposits, but extraction is made extraordinarily difficult and in places impossible by the thick masses of lava and tuff lying over the deposits.

In 1936 oil was found also on the western side of Kamchatka in the area around the village Tigil'. The deposit lies in an area which is more than 20 kilometers wide and 80 kilometers long and which extends along the coast of the Sea of Okhotsk. The village of Tigil' lies in the center. The oil supplies are connected to flat anticlines. The oil-bearing layers are of the Miocene era and have a total thickness of 500 to 1500 meters. The oil is found in sand horizons which are interrupted by dark gray loam, in which /154/ brown coal seams are deposited. These brown coal seams in places attain a thickness of 0.5 to 1 meter.

Additional oil supplies are found in the river basin of the Penzhina and in the hinterland of Korff Bay.

Importance and Exploitation

The importance of oil extraction for the Far Eastern regions of ooo

315 The importance of oil extraction for the Far Eastern regions of the Soviet Union cannot be overestimated. The oil industry supplies the industrial regions in the interior as far as Transbaykal, all ocean and coastal shipping, and also the Far Eastern army. Without the oil of Sakhalin the Far Eastern region would have to import oil from overseas or from the European part of the Soviet Union. In the latter case the oil would have to be brought on the Siberian Railroad over a distance of 7,000 to 8,000 kilometers.

The oil industry in the Far Eastern region is included in the independent trust Sakhalinneft. The oil field at Okha is connected with the oil harbor at Moskal'vo on the western coast of the island by means of a railroad and an oil pipe. From the rest of the oil fields the oil is taken over on the coast by tank ships. Apart from two rather small refineries which are supposed to exist in Okha and in Moskal'vo, the bulk of the oil is processed on the mainland in the oil refineries of Vladivostok, Khabarovsk, and Komsomol'sk. An additional oil refinery is known in Ulan-Ude. Very recently Khabarovsk and Komsomol'sk have received modern cracking installations. The production capacity of the refineries in the two last named cities is estimated to be 1.2 million tons, and the cracking capacity is estimated to be 600,000 to 700,000 tons. An oil pipeline planned and required for a long time, is under construction, or is probably finished at present: it is to bring together all the oil extracted on Sakhalin and conduct it to the mainland to Komsomol'sk and Khabarovsk. The dam completed in 1952 between Sakhalin and the mainland will undoubtedly carry a part of this pipeline. Hassmann (80) reports in this connection that the oil

80. Hassmann, H. Erdöl in der Sowjetunion /Petroleum in the Soviet Union/. Hamburg, 1951.

pipe line is to lead from Okha to Nikolayevsk and then along the Amur via Komsomol'sk to Khabarovsk.

The total supply of petroleum in the former Russian part of Sakhalin Island is given at around 150 million tons. (2) /The footnote

2. Atlas der Vereisungsverhältnisse Russlands und Finnlands, /Atlas of Russian and Finnish Glaciation Conditions/ Prepared by the Deutsche Seewarte, Issued by the Oberkommando der Kriegsmarine (1942), Vol. II, p. 14.

reference here seems to be in error. Presumably the author meant to

refer to footnote number 3:--translator/ The total production of 315

3. Atlas energeticheskikh resursov SSSR /Atlas of Sources of Energy in the USSR/,//Collected work under the editorship of A.V. Vinter, G.M. Krzhizhanovskii, and G.I. Lomov, 2 vols. (Moscow-Leningrad, 1934), Vol. II, p. 14/

Sakhalin Island, including that of the Japanese concession, amounted to 562,000 tons in 1938, but the Russian production, as numerous investigations have determined (59), could easily have been increased

59. Federov, S.F. Neftianyie mestorozhdeniia Sovetskogo Soiusa /The Petroleum Supplies in the USSR/. Moscow, 1939.

if it had not been limited by the shortage of means of transportation. According to the same source (59) the Soviet production in the same

59. Federov, S.F. Neftianyie mestorozhdenii Sovetskogo Soiusa /The Petroleum Supplies in the USSR/. Moscow, 1939.

year was only around 356,000 tons. According to Hassmann (80), the oil

80. Hassmann, H. Erdöl in der Sowjetunion /Petroleum in the Soviet Union/. Hamburg, 1951.

production in the last years after the war developed as follows:

1946	882,000 tons
1947	1,030,000 tons
1948	845,000 tons
1949	1,000,000 tons
1950	1,200,000 tons

One of the last success reports stated that the oil production of Sakhalin in 1952 exceeded that of 1948 by 65 percent. On the basis of the above figures, then, the oil extraction on Sakhalin in 1952 would have amounted to 1,396,200 tons. However, the above figures on the development in the post-war period are regarded as too low, especially the output for 1948 and the following years. Accordingly a total production for 1953 of 1.8 to 2.0 million tons cannot be regarded as being too high.

000 as being too high.

Peat Supply

135 The formation of swamps and the formation of peat probably stand in close connection with one another, but the formation of swamps does not always lead to the formation of peat beds. This is in large measure the case in Transbaykal. The irregular water conduction of the rivers brings with it floods and heavy soaking of the ground near the rivers, and accordingly in the valley areas this is often accompanied by swamps. However, only occasionally are peat beds of a larger size found in these swampy areas, and thus Transbaykal has at its disposal only slight peat deposits. Conditions in the other areas are different. The Atlas of Sources of Energy in the USSR gives some figures on this; but these are only general figures, designed to orient; and, as is often emphasized, they should not be regarded as exact data. They are to be used here because they contribute to a clear representation of the land and its conditions. Investigations of individual regions have lead to the general knowledge that of the entire mainland in the Far Eastern region (not including Kamchatka and Sakhalin) around 15 percent is swampy: i.e., in absolute figures, there are approximately 360,000 square kilometers of swamp area. The reason for this extraordinarily high percentage is, in the first place, to be found in the existence of the permafrost, and, in the second place, it goes back also to the extensive tundras in the northeast. Furthermore, research has shown that of the swampy areas, around 10 percent consists of peat swamps which contain peat deposits of economic value. Since from tests and experience in the Soviet Union one reckons on a mean thickness of the peat layer of 1.5 meters, of which, however, only approximately two-thirds can be extracted, one finds that there are extraordinarily large peat supplies in the Far Eastern regions. But these figures should not be considered further, since their value was only calculated theoretically and their realization still lies in the distant future. More important are the peat deposits in the areas already opened, for these have an economic use which is tangible.

In the Aumr and Ussuri region extensive peat deposits are known. They extend primarily in the valley areas around the rivers. In so far as they lie within the food areas, they are economically of slight value because of their great dampness and their high ash content. It is different with the peat deposits which lie on old river terraces or also often

on the watersheds between the tributaries. These deposits are distinguished by their great thickness and their slight water and ash content. The peat deposits which have formed in the foreland of the mountain ranges have the same character. According to Soviet figures, these types of peat in an absolutely dry condition have a heating value of 4,600 to 5,100 calories per kilogram. In individual regions under morphologically caused conditions true peat massifs have developed covering a large area. The Amur depression below and above Khabarovsk is especially rich in peat deposits of this type. Approximately 80 kilometers below the city, between the right tributaries of the Amur, the Nemptu and the Mukhen, lies an extensive peat massif, which, in the discussions of new plans for this area, is always named in first rank as the basis for energy here, and which for this reason should be characterized here briefly as an example. The peat deposit is divided into five fields with the following dimensions:

Name of the Deposit	Area in hectares	Supply in Millions of Cubic Meters	Possible Capacity of the Power Plants in kilowatts
Mukhenskoye	8,090	61.8	22,500
Nel' tinskoye	1,739	27.5	10,000
Industializatsiya	1,546	17.8	6,500
Amkhalginskoye	15,000	180.0	65,000
Yuskovskoye	10,000	97.5	34,700
	36,375	384.6	138,700

Soviet planners have reckoned that the power plants listed in the above table could in around 25 years reach the designated output by putting in 5,000 hours of work a year. These figures are introduced here only in order to show what economic importance the great peat deposits can have.

There are additional important peat deposits in the area of the lower Amur, in Birobidzhan, then especially also in the area between the Sikhote-Alin' and the Ussuri. The peat deposits in the other regions are still little investigated and are still not included in any plans.

If the large peat deposits are still not being used at present, they nevertheless already form the objects of far-sighted planning, and the /157/ time may come when peat power stations will arise from

 these peat deposits, such as we see already in action today in the European part of the Soviet Union.

The Iron Ore Supply and the State of Its Exploitation

The iron ore supply of Transbaykal and the Far Eastern region does not constitute a very important percentage in terms of area in comparison with the other parts of the Soviet Union. Transbaykal provides 5 percent of the total area and, according to the state of exploration of January 1, 1938, it conceals in its soil only around 265 million tons of iron ore, not counting iron quarzite. This constitutes only 2.2 percent of the total supply of the USSR. With the Far Eastern regions the difference is somewhat greater; for in terms of area these regions provide 12.5 percent of the total but only 1.6 percent of the supply, which in absolute figures is 187 million tons. In this, however, it is necessary to point out the areas still not completely investigated; the percentage of these in the Far Eastern regions is still especially great, and accordingly there is certainly the possibility of finding new ore deposits.

In the following sections only the most important deposits are to be treated in so far as they are known to date.

Transbaykal

1. The iron ore deposits of Balyaginskoye are undoubtedly the most extensively known and also developed. They form the basis of the foundries of Petrovsk-Zabaykal'skiy, and lie 22 kilometers northwest of these foundries and are connected to them by a railroad line. The ore appears as magnetite in the form of sticks /Stöcken/ and lenses /Linsen/. The iron content is 45.5 percent to 47.2 percent, while the percentage of phosphorus is 0.042 percent and that of sulphur is 0.90 percent. Until recently the mining was still done in open works, but today already it is done in underground works. The ore is broken into pieces on the spot and is enriched by smelting. The supplies are given in the individual categories as follows: A is 2,851,000 tons, B is 288,000 tons, and C is 308,000 tons. The amount of iron ore mined amounted to 113,000 tons annually at the end of the second Five Year Plan. Since because of the completion /of a building/ the capacity of the iron foundry in Petrovsk-Zabaykal'skiy has in the interval been increased to 150,000 tons of crude iron, a mining of from 300,000 tons to 350,000 tons of ore a year can be assumed, and accordingly with

the supplies given above it can be reckoned that the mines will soon be exhausted of ore and the opening of other ore deposits will begin. 135

2. The Balbagarskoye iron ore deposit lies in the Kurba Rayon in the valley of the Kurba River, which comes from the northeast and empties into the Uda approximately 75 kilometers above Ulan-Ude. The deposit begins approximately 60 kilometers from Onokhoy, the next railroad station, and is divided into numerous scattered, individual deposits, which consist of a conglomerate of hematite and /158/ quartz. The total supply of A plus B is 2.4 million tons and of C is 81.7 million tons. Nothing is known about the iron content, but an enrichment on the spot is regarded as necessary.

3. In the Buryat-Mongol ASSR some deposits of iron quarzite have been found, which, according to estimates, should make a total supply of 120 million tons. Of this the largest deposit, that of Mudgor Gorkhonsk, alone has a supply of 96 million tons. Iron ore deposits of secondary importance have also been determined at Mysovsk /now: Babushkin/ in the vicinity of the shores of Lake Baykal.

4. In eastern Transbaykal the most important iron ore deposits are concentrated in the area around Nerchinskiy Zavod. Here lies the often-mentioned Zheleznyy Kriazh, the "Iron Mountain Range," an important iron ore deposit consisting of magnetite. This deposit stretches over 12 kilometers and is supposed to contain a total supply of A to C iron amounting to 112 million tons. The iron content ranges between 40 percent and 60 percent. The ores contain sulphur and arsenic. Forty kilometers from Nerchinskiy Zavod, in the vicinity of the Argun, lies the iron ore deposit of Berezovskoye, which consists of limonites and which has a total supply of A to C ores amounting to 75 million tons. In the same area, whose waters drain into the Argun, additional iron ore supplies have been determined, those of Yakovlevskoye /now: Privolzhsk/, Bystrinskoye, and Beklemishevskoye. According to superficial estimates, the total supply of iron ore in East Transbaykal is assumed to be some hundreds of millions of tons. The remoteness of these deposits, especially the lack of coal which can be made into coke--the next coal district, whose coal, furthermore, can only in part be made into coke, is Bukachacha--makes it appear scarcely possible that the east Baykal iron ore deposits will be used in the near future.

Amur Area

1. The Bureya Mountain Range contains the largest iron ore

135 deposit in the Far Eastern region. In a zone 100 kilometers long, this deposit extends from the Amur to the northeast and lies for the most part in the Jewish Autonomous region. All told ten supplies have been determined, which can be grouped into four groups. The most northerly of these, the Botomskoye iron ore deposit reaches as far as Kimkan on the Amur Railroad. The type of ore varies: in part it comes close to hematite. The iron content is the greatest in the north where it has a mean of 48 percent, and it decreased in the direction of the Amur, where it fluctuates between 34 percent and 43 percent. The total supply of A to C ores is given at 59 million tons. An older figure for the total supply, including the ore in category C_2, was 500 million tons, but this must undoubtedly be greatly adjusted because of more recent determinations; for, according to the research as of January 1, 1938, the total iron ore supply in the Far Eastern region (Krai Khabarovsk and the Maritime Krai) is only 187 million tons.

/159/ 2. At Nikolayevsk on the Amur, lying in the vicinity of the city, are iron ore deposits whose ore has the character of limonite and has an iron content of 26 percent to 45 percent. The supply of A plus B is given at 14.2 million tons, to which 9.5 million tons of category C ore can be added; thus the total supply is 23.7 million tons.

The iron ore deposit of Nikolayevsk is supposed to supply the iron foundries of the combinat "Amur Steel" in Komsomol'sk. Formerly there was a steel plant and a rolling mill there. Since the capacity of the blast furnace envisaged there is planned to be approximately 500,000 tons of crude iron, Nikolayevsk's supplying of this installation will, from the long range point of view, soon lead to difficulties, and accordingly the deposits in the Bureya Mountain Range must in the foreseeable future be drawn into this. There are no further reports on the iron plant originally planned to be built in the vicinity of Kimkan and to use the ore from the Bureya Mountain Range; this plant was to be supplied with Bureya coal from the Tyrma Rayon. But this project must probably still not have gotten beyond the planning stage.

Maritime Krai

1. The magnetite of the Ol'ga group on the coast of the Sea of Japan constitutes the largest iron ore deposit. This magnetite as a rule appears in contact-metamorphic deposits at the points of

contact with lime and granite. This ore is divided into various individual deposits, of which the following three are the most important: Belaya Gora (1,150,000 tons), Magnitny Mys (143,000 tons), and Mramorny' Mys (82,000 tons). The ore of the Belaya Gora deposit has an iron content of 50.7 percent to 58.9 percent and is especially valuable because of its manganese content of up to 2 percent. Additional deposits are on Anna Bay. The general reserves of the Ol'ga Group, including the ore in category C_2, are numbered at 29 million tons.

2. The iron ore deposit of Sudzukhete, in the valley of the Sudzukhe River, lies at a distance of 43 kilometers east of the Suchan coal district. The type of ore varies greatly and ranges from magnetite to brown hematite of the contact-metamorphic type. The iron content ranges between 34 percent and 61 percent. Nickel is also mixed in in places. According to superficial estimates, the supply is given at 1,150,000 tons.

3. At Pos'yet Bay, directly on the coast of the Sea of Japan, 50 kilometers away from Vladivostok, lies another deposit, whose supply, however, is not very significant. It consists of magnetite sand with an iron content of 31 percent to 63 percent and has a total supply of 1.3 million tons.

4. The iron ore of Sergiyevskoye, which lies 7.5 kilometers from the Talovka station on the Manchurian branch of the Ussuri Railroad, is just as favorable from the point of view of transportation as is the Pos'yet deposit. At Sergiyevskoye is magnetite with an iron content of 34 percent to 61 percent and manganese amounting to 0.61 percent to 1.86 percent. The supply, however, amounts to only 280,000 tons of ore in categories A to C.

/160/ Numerous other supplies are known in addition to the above-mentioned iron ores, but these can scarcely be used in the foreseeable future. Up to 1939 mining of iron ore took place only in the deposits at Ol'ga Bay and Sergiyevskoye. Nothing is known of the present state of exploitation, although the thought is suggested that the iron ores lying near the coast may be used in conjuction with the Sakhalin coal which can be made into coke.

Non-Ferrous Metal

Two areas are especially prominent in terms of their supply of non-ferrous metals.. They are southeastern Transbaykal and the Maritime Krai. Zinc and lead with the usual admixtures stand in the

135 foreground in both areas, although in the number of types of metal Transbaykal exceeds the Maritime Krai; for in Transbaykal there is also tin, wolfram, molybdenum, lithium, and others. Copper, on the other hand, is either entirely lacking or it appears in supplies scarcely worth mentioning.

Zinc and Lead Supplies

In terms both of supplies and of production of these two metals Transbaykal and the Maritime Krai have an important position within the Soviet Union. According to Balsak, Chita Oblast and the Maritime Krai supplied the following percentages of the total supply and the total production of the Soviet Union in 1937:

	Zinc		Lead	
	Percentage of		Percentage of	
	the total supply	the extraction of zinc ore	the total supply	the extraction of lead
Chita Oblast	7.00	--	10.20	--
Maritime Krai	4.41	11.5	5,54	12.5
Total	11.41	11.5	15.74	12.5

Transbaykal

In southeastern Transbaykal the non-ferrous metals are concentrated in the triangle between the Shilka, the Argun, and the branch of the Transbaykal Railroad leading toward Manchuria. Here, too, are zinc and lead supplies, which appear in the typical mixed ores with the zinc and lead content ranging in the mean between 10 percent and 15 percent; these ores often contain up to 1 percent antimony and between 0.1 percent and 0.2 percent tin. Copper appears only rarely, and then it constitutes only an insignificant percentage of the metals in the ore, while the arsenic content is often larger.

The total number of zinc and lead occurrences is given at 550, of which, however, only 34 have an importance realizable /161/ economically, i.e., industrially. These occurrences can be grouped into five mining districts according to their geographical position; in these districts are old works already established in the Czarist era.

1. Rayon Aleksandrovskiy Zavod. This comprises five deposits, of which that of Akatuyevskoye is the most important. The ore here

appears in extensive veins. The content of lead (2.85 percent) and of zinc (1.88 percent) is slight, but the silver content, whose mean is 275 grams per ton, made use of this ore feasible economically in the past. The total supply in the rayon is in 1,000 tons:

Category	Ore	Zinc	Lead
A_2	71.3	1.8	1.8
B	270.8	7.0	8.5
C_1	258.6	6.7	7.2
Together	600.7	15.5	17.5
C_2	292.5	8.0	10.5

2. Byrkinskiy Rayon. Like the above mentioned rayon, this lies in the south, approximately east of Borzya, and it comprises five deposits. The most important of these lies at Savinskoye and was exploited by the mine of the same name. The ore here constitutes a stratum-type formation, which comes to the surface in a width of 600 meters and which has a thickness of 15 to 20 meters. The content of lead (4 to 6 percent) and of zinc (4 to 7 percent) is not very important, but extraction is very much facilitated by the favorable stratification. The total supply of the rayon is in 1,000 tons:

Category	Ore	Zinc	Lead
A_2	1,600.0	42.2	27.4
B	609.9	28.4	23.0
C_1	3,530.0	166.8	73.5
Total	5,739.8	240.4	123.9
C_2	458.8	18.7	13.5

3. Rayon Gazimurskiy Zavod. This comprises only two deposits with insignificant supplies. In the Tayninskoye deposit the ore is connected in veins, which appear in dolomite lime. Earlier these deposits supplied the Gazimurskiy plant. The total supply in 1,000 tons is:

Category	Ore	Zinc	Lead
C_1	40.0	4.0	2.0
C_2	180.0	17.6	9.2

4. Rayon Nerchinskiy Zavod. Here twenty deposits press together in a narrow area along the Argun to the north and south of the old,

135 well-known works. /162/ These deposits are in part exploited by the Nerchinsk Works and are therefore the best known. The most important deposits are those of Mikhaylovskoye and Kadainskoye. In the first of these the ore forms stratum-like veins deposited in limestone; in the Kadainskoye deposit, on the other hand, the ore appears also in extensive beds. In addition to zinc and lead, cinnabar is also extracted in Nerchinskiy Zavod. The total supply of the rayon in 1,000 tons is as follows:

Category	Ore	Zinc	Lead
A_2	548.0	84.6	37.0
B	426.5	43.8	20.8
C_1	899.1	60.8	41.1
Total	1,837.6	189.2	98.9
C_2	2,655.2	205.0	134.8

5. Ustkariyskiy Rayon. This comprises only two deposits, Yekaterininskoye and Preobrazhenskoye, in which only oxidized ores are mined and which are processed in the Shilkinskiy Zavod. The supply contains only ores of category C_2 and amounts in 1,000 tons to: ores 1,050.0; zinc, 34.5; and lead 23.5.

After the Bolshevist revolution work in almost all the installations was stopped because it didn't pay. In the last few years a large zinc-lead combination has been erected in Nerchinskiy Zavod. This combination depends on ore deliveries from thirteen mines, which are grouped into three bases. Nothing is known about the production or its size.

Maritime Krai

The zinc and lead occurrences here are limited to a narrow area extending approximately 150 kilometers along the coast of the Sea of Japan, from the point where the Pkhussun empties into the sea in the south to the river area of the Tetyukhe in the north. All told more than 50 occurrences have been determined, of which, however, only fourteen justify economic exploitation. The most important deposits are concentrated in three groups, of which the most northerly lies in the river area of the Tetyukhe, the central one lies between Vladimir Bay and Ol'ga Bay, and the most southerly lies in the area around the mouth of the Pkhussun. The Tetyukhe group is of outstanding importance, having more than 90 percent of the total supply

in the Maritime Krai. These are contact-metamorphic deposits having 135
contact with quartz porphyry and lime in the form of great beds and lenses /Linsen/, which appear both in the main valley of the Tetyukhe and also in the neighboring valleys. The content of zinc and lead in the deposits in the Maritime Krai is as a rule higher than in the deposits in Transbaykal, and in addition silver generally appears in the Maritime Krai too. In this connection attention should also be paid to the deposits on the Great and the /163/ Lesser Sinancha in Terney Rayon, approximately 35 kilometers north of the mouth of the Tetyukhe. Even though the total supply here is not very great, this deposit is distinguished by its very high values; for it contains 23.5 percent zinc, 15.1 percent lead, and 462 grams of silver per ton of ore, while the silver content in the Tetyukhe deposits as a rule does not exceed 280 grams per ton. The total supply of the Maritime Krai is as follows in 1000 tons:

Category	Ore	Zinc	Lead
A_2	804.4	79.1	63.1
B	2,121.6	220.5	99.7
C_1	1,436.4	115.8	47.6
Total	4,362.7	415.5	210.4
C_2	1,974.9	114.8	73.2

The Tetyukhe deposits were already discovered by the Chinese in the forties of the last century. From 1911 to 1919 the Vladivostok wholesale merchant, Briner, worked here, who in 1915 created a concentration installation. In 1924 the mine went as a concession to the British "Tetyukhe Mining Corporation." In 1928-29 there were 55,000 tons of ore mined from here, and from this ore 14,000 tons of zinc concentrate and 6,000 tons of lead concentrate were extracted through flotation. In the first half of 1930, 74,000 tons of ore were mined, to produce 14,000 tons of concentrate. After the installations were taken over by the Soviet regime, two additional mines (Sovetskiy Rudnik No. 1 and 2) were established in the vicinity of the old mine. The amount of ore mined can be reckoned at 85,600 tons for 1937 and at 108,100 tons for 1938. There are no data whatsoever on the further development of these installations.

The concentrates or metals extracted are transported to the harbor installations at the mouth of the Tetyukhe with the help of a 35-kilometer long narrow-gauge railroad line. From the south of the Tetyukhe these concentrates and metals are carried away by the sea route.

Other Resources from the Ground

135 Copper. Eighteen occurrences are known in the Maritime Krai, but of these only two are worthy of mention, those in the area of Plastun Bay and on the Yaudsukhe emptying into the Dzhigit Bay. The copper content of the ore tests ranges between 5 percent and 8 percent, but as a general mean it is only 1.5 percent, and accordingly economic exploitation appears scarcely possible. The results of research on the Chukchi Peninsula awakened great hopes of copper and other non-ferrous metals, for copper ore has to date been found in five places on this peninsula. All figures indicate a considerable wealth on the Chukchi Peninsula, but nothing has been made known about the type of ore occurrences and their supplies. (See sketch map on p. 164)

/164/ / Sketch Map of the Copper Occurrences on the Chukchi Peninsula/

Tin. Up to the beginning of the second Five Year Plan (1933) Chita Oblast was the sole tin-producing area in the Soviet Union, and even now this region remains decisive in supplying the Soviet economy with this valuable metal. The most important deposits are in the river area of the Onon in southeastern Transbaykal, where four independent deposits have been determined. These deposits extend over an extensive area. The tin content ranges between 0.17 percent and 3.78 percent; the mean, however, it only 0.6 percent to 1.0 percent. The tin is extracted in the works at Khapcheranga and Sherlovogorsk and in the Onon Mine, not far from the Olovyannaya railroad station. A new mine has been established at the foot of the Sokhondo. In production the works at Khapcheranga stands in first place; in this it is aided by the fact that coal lies in the vicinity, which is mined for running the plant. In the Maritime Krai tin is found in the region of the Bol'shaya Sinancha, which has already been mentioned for its zinc and lead ores. At the end of the thirties mining was begun here.

Wolfram is found in the Buryat Mongol ASSR along with molybdenum in the river area of the upper Dzhida, where there is a great works with its center in Gorodok. The plants are equipped with a dressing installation and with conveying railways and suspension railways. The work is favored by the existence of coal, which is extracted not far from the plants. The wolfram deposits of Dzhida are regarded as the largest in the Soviet Union. In Chita Oblast wolfram is furnished by the deposits at Belukha and Bukuka, which are east of the Olovyannaya railroad station. Additional deposits have been found

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Sketch Map of the Copper Occurrences on the Chukchi Peninsula

in the valley of the Chikoy, but these have still not been opened up.

Molybdenum is extracted in Gutay on the Chikoy River in the Buryat Mongol ASSR. Occurrences of molybdenum also appear in the /165/ Amur region and in the Maritime Krai. Only a deposit on the upper Bureya has proved to be industrially useful to date. A works for extracting molybdenum and antimony has been erected in the last few years where the Bureya's right tributary, the Umalta, empties into the upper Bureya. The Bureya coal lying in the same area facilitates the work.

Fluorspar is mined in southeastern Transbaykal in six mines. The largest of these are the mine of Kalenguy, in the vicinity of the Khada-Bulak station, and that of Solonechnoye in the Argun River area. Up to 1937 Transbaykal provided 85 percent of all the fluorspar in the Soviet Union. The supply of feldspar is given at more than 1.2 million tons.

Bauxite. A significant deposit of bauxite was discovered south of Lake Baykal at the locality of Okinsk. In 1947 mining was begun, and at the same time an aluminum plant was erected in Okinsk. Another large bauxite deposit has been determined in the Eastern Sayan at Sagakhani-Eshen.

Among the other mineral resources of Transbaykal the deposits of lithium should also be mentioned. According to Soviet figures these should be reckoned among the most important in the world. Various deposits of natural soda should also be mentioned. Furthermore, there are reports of occurrences of asbestos and graphite. There are reports of uranium findings only from the extreme southwest of Transbaykal.

Only the most important minerals could be listed above, and at that they could only be described in so far as they represented industrially valuable deposits or were already being exploited. Striking in this connection is the inadequate connection with the transportation network, especially with the railroads. For even those production places so emphasized in Soviet literature for their economic importance--such as these on the upper Dzhida or Khapcheranga and many others--have no railroad connection to the rest of the transportation network, but rather as a rule are connected only by finished land routes, which, to be sure, can be traveled by trucks the whole year through. Herein lies a restricting factor, which is effective in numerous mining places and which does not allow these places to come to their full development despite the generosity of their installations and plans.

Gold

Without a doubt it can certainly be assumed today that within

135 the gold economy of the earth the Soviet Union can claim for itself one of the first places among the producing countries. From the most varying announcements and other sources it can be concluded that the Soviet Union is striving with all its force and all its energy to expand its gold mining without considering cost problems. However, the results of the gold extraction /166/ has been kept as a strict state secret for a number of years. Absolute silence is also kept on the share of the individual regions in the production, and accordingly exact figures cannot be expected on this subject. But it remains certain that the regions treated in this book continue to include in themselves the most productive gold areas in the USSR, even though the Soviet press occasionally reports the development of new gold fields in other regions. As the best example, the Kolyma area should be pointed out here: it was opened up from Magadan on the Sea of Okhotsk out and has brought the Soviet Far East again into the foreground as a supplier of gold.

In the following description all the gold production areas are to be treated in a clear summary indicating how they have been presented in publications of the Soviet Union both before and during the last war and how they are directed and taken care of by state administrative agencies up to this time. It is scarcely to be assumed that they have been abandoned in the time which has passed since then. In some of the areas newer sources are also used.

In the Buryat Mongol USSR /sic/ the Vitim Plateau is still a productive gold area, which for a long time has belonged to the primary productive areas of Siberia. From the gold streams the gold is extracted with the help of modern dredges /Draggen/ and hydraulic machines. The center of this gold area is Tsipikan, which is connected with Chita by an airline, which is flown regularly. This advances the importance of this area, and furthermore makes it possible that the mining here is directed and controlled by five gold mining administrative agencies.

In East Transbaykal the gold is extracted in numerous places which are, however, more scattered. The gold fields here have been known since the end of the eighteenth century and for the most part they have already become unproductive. Only the remote river valleys are still of significance: for example, the area around the upper course of the Tura (a tributary of the Ingoda) and of the Ilya (a tributary of the Onon), the valley areas of the upper Chita and Uldurga, and, to a lesser extent, some tributaries of the Argun. Accordingly they have moved on to exploiting gold, which has been discovered in the valleys

of the Ingoda, Shilka, and the Chikoy. For this, modern gold ore works have been founded. The most important ones lie in Darasun, approximately 75 kilometers northwest of Nerchinsk, and in Baley in the valley of the Unda, approximately 40 kilometers south of Nerchinsk. In both of these arsenic and other metals are extracted at the same time.

The Amur gold fields should be named in third place. They extend over an extraordinarily large area and for this reason are divided into three parts: the Amur-Zeya area, the Selemdzha area, and the Bureya Mountain range.

/167/ The Amur-Zeya area comprises all the gold fields in the sphere of the rivers flowing into the upper Amur, including the Zeya. Some districts are especially prominent here, for example one to the north of the Mogocha station where the valleys of the northern rivers flowing into the Amazar conceal in themselves productive gold streams. Also subordinate to this administrative district are the neighboring gold streams of the rivers flowing toward the north to the Tungir. A second district lies to the north of the Skovorodino station. Here primarily the gold streams of the area around the upper course of the Urusha, of the Oldoy, and of the Urkan, which flows into the Zeya, are processed, in so far as they lie north of the Amur railroad. The areas around the lower courses of the numerous Amur tributaries between the railroad line and the Amur River have already become unproductive since gold washing had already begun in these valleys in 1867. Judging from the number of gold mining administrative agencies--before the war there were four--this district in the Skovorodino area must be very productive. To this district there also belongs the area around the upper course of the Nyukzha, which flows toward the north to the Olekma. While only gold streams are exploited in the above-mentioned areas, in the Zeya district mine gold is represented in rich measure in addition to gold streams. This district encompasses the entire depression between the Stanovoy in the north and the Tukuringra Mountain Range in the south. A base is formed in the eastern part of the southern slope of the Stanovoy in the area of the right tributaries of the Zeya: Sugdzharikan, Bomnak, and Tok. The administrative center here is Mikhaylo-Semenovskiy. Also equally rich in gold is the western part of the depression in the sphere of the right tributaries of the Zeya, the Ushuley, Bryanta, Unakha, and along the entire course of the Gilyuy. Two administrative centers here serve as executive offices for the plants. In general only gold streams are exploited, but in many places here they move on to working the gold-bearing sands lying under the surface of the earth; these sands are brought to the surface in mining-type

135 processes . _ In addition mine gold also occurs in this region, especially in the Gilyuy area where a mountain especially rich in gold veins has the name "Gold Mountain." However, there are no reports that mine gold is being mined on a large scale here, and, furthermore, these regions are still too little opened up in terms of transportation.

The Selemdzha gold area extends over only a slight area and comprises in the main the gold streams of the tributaries coming from the Dzhagdy Mountain Range to the upper course of the Selemdzha. These tributaries are also only rich in gold in the area near their sources, but, on the other hand, in the drainage area of these tributaries they are rich in primary deposits, which are exploited here on a rather large scale, but mostly with very primitive methods. The administrative center is Karaurak, a second center lies further up in the valley of the Khargy, a left tributary of the Selemdzha.

The gold deposits of the Bureya Mountain Range are insignificant and are remote, lying in the area around the source of the Niman, a tributary of the upper Bureya. The /168/ gold district is subordinate to only one administrative agency, which is in Sofiysk.

Next to the above-mentioned gold districts all others in the area of the Amur-Ussuri region and also in the Maritime Krai are of subordinate significance. Only those districts should be named here which are grouped in a gold mining administrative agency: thus, the gold district in the valley of the Sutar with its center in Radostny' in the Jewish Autonomous Region and three gold fields west of the lower Amur, in the area of the area of the Amgun and Kerbi rivers and north of the Orel Lake. On Sakhalin there is a corresponding district only south of the upper Poronay. In Kamchatka and in the entire coastal area the extraction of gold is scarcely worth mentioning.

In contrast to the reduction in importance of the above-named areas, the Kolyma area has in the last few years stepped into the center of interest almost with a jump. Today it exceeds in productivity all the other gold districts both in the Far East and also in the whole of the Soviet Union.

The first reports of gold occurrences in the area of the upper Kolyma go way back, and there were also reports on Cherskiy. However, only the successful expedition of the Central Institute for Scientific Research and Geological Inquiry, under the leadership of Bilibin, whose report was given in 1932, caused the Soviet Union to proceed to the exploitation of the gold fields in 1933. The first successes and the

knowledge of the wealth of this region were spurs to pushing recklessly forward in the exploitation by using work camps. As a consequence, the Kolyma area today is among the most notorious regions in the Soviet Union, and is one of those most feared, because of the harshness of its climate. 135

For the opening up of this area building was done on the harbor and city of Magadan on Nagayevo Bay. The inhabitants of this city today are estimated to be 50,000. A highway was laid out to connect with the gold fields; by 1940 this highway had already attained a length of more than 700 kilometers, and it connected all the important mining centers. The road is kept usable for trucks the whole year through. The supplying of the entire area is done via the sea route, for the most part via Magadan, and for the rest from the north via the Kolyma. Since these connections, however, are closed off by ice for more than six months during the long winter, they proceeded to create a permanent land connection by building a highway from the center of the gold district to Yakutsk on the Lena. Of considerable importance for the development of this regions is also the fact that hard coal has been found on the Kolyma in the vicinity of the town of Verkhne-Kolymsk. Some Sovkhoz have been founded as a local source of supply for vegetables, milk, and fresh meat. [491]

The main gold fields lie west of the Buyunda, a /169/ right tributary of the Kolyma, primarily in the area of the Srednikan and Orotukan rivers. At first only the very productive gold streams were exploited, but then the mining of mine gold was also taken up. Mine gold is especially rich in the mountains on the Srednikan, on the Utina, and on the Khatynakh. The most important centers of the gold district are Srednikan, Orotukan, Khatynakh, and Seymchan.

Gold extraction in the Kolyma region developed as follows in comparison with the total production of the Soviet Union (Figures are in 1,000 kilograms): 316 433

	1933	1934	1935	1936	1937	1938	1939
Soviet Union	83.0	120.0	149.0	163.0	176.0	192.0	210.0
Kolyma Region	0.3	1.2	8.0	12.3	20.0	30.0	51.0
Percentage of the whole supplied by the Kolyma Region	0.4	1.0	5.4	7.5	11.3	15.6	24.3

(Table continued on following page)

	1940	1941
316 Soviet Union	225.0	240.0
433 Kolyma Region	51.0	55.6
Percentage of the whole supplied by the Kolyma Region	22.7	23.2

The share of the Kolyma region has risen to almost 25 percent of the total extraction done in the Soviet Union. According to definite plans, gold production in the Kolyma area is to be raised to 75,000 kilograms. Friedensburg, in his book on "Gold" which appeared recently, has collected together in a table of figures (63) all estimates and

63. Friedensburg, F., "Gold," Die Metallischen Rohstoffe /Metallic Raw Material/, Vol. 3, 2nd edition (Stuttgart, 1953), p. 178.

reckonings on the total gold extraction in the Soviet Union. With justice he points out the confusion that rules on this question even in foreign agencies versed in such affairs. Nevertheless, I do not shy from bringing the above table which rests on my own sources. The present production may be assumed to be approximately 250,000 kilograms (1952). In any case, it is certain that the Kolyma region stands at the head of all gold fields in the Soviet Union. According to the supplies explored, mining is assured for 15 to 20 years if the extraction remains at 75,000 kilograms.

The Forests and the Use of Wood

311 The forests of Transbaykal and of the Soviet Far Eastern regions are, by European standards, as large as countries. The forested area covers around 1,800,000 square kilometers. While the Far Eastern regions contribute around 17.5 percent of the total area of the USSR, these regions provide 21 percent of the total forested area.

The distribution and extent of the forests in the Soviet Far East are shown in the following table:

(Table on following page)

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Region	Forest Area in millions of hectares	Percent of the total area	Area stocked with forests in millions of hectares	Percent of the total area
Buryat-Mongol ASSR	28.7	84	18.7	57
Chita Oblast	57.6	80	43.2	60
Far Eastern Regions	104.2	37	58.9	21
	180.5		120.8	
USSR	956.3	44	484.2	23

/170/ Transbaykal can be designated as rich in forests although it includes extensive steppes. The forest area or the forest potential, as the Russians designate it, is given at 28.7 million hectares (1936) in the Buryat Mongol ASSR; thus the wooded area covers more than 84 percent of the total area of this republic. However, this total figure of 28.7 million hectares (100 percent) also includes the pastures and meadows closed in by forests (6 percent), and, in addition, the swamps, the bare peaks of the gol'tsy, and boulder areas little grown up (13 percent), and thus only 23.3 million hectares (81 percent) remain for forests themselves. Of this, again, only 18.7 million hectares (65 percent) are stocked with forest, i.e. real, tall forests. Burned areas, windfallen trees, and other things account for the significant difference between the two last figures. These figures show the actual conditions, indicating how one must view in their individual parts the areas designated as general forest potential in the statistical information. These figures also serve at the same time to explain the above table. The percentage of forest is largest in the northern areas, especially in the mountains which surround Lake Baykal, and it is smallest in the south, especially in the area around Kyakhta.

137
311

According to types of trees, the stocked wooded areas are divided as follows:

Conifers:	93 %, with	larches	47 %
		pines	24 %
		cembra pines	16 %
		spruces, firs	6 %
Deciduous trees:	7 %, principally	birches, aspen, poplars, and others	7 %

311 Approximately 65 percent of the forests consist of wood ready
137 for cutting, i.e. the trees are over 100 years old. These and the above figures should be regarded as only estimates; for a large part of the forested area has neither been investigated nor has a count of the supply in the forests been made. What large tasks are still to be resolved here and also in the other Far Eastern regions is shown by the figure given by V.F. Panayev for the year 1936: he said that at the time only 18.4 percent of the total forested area in the Buryat Mongol ASSR had been explored. (12)

12. Problemy Buriat-Mongolskoi ASSR /Problems of the Buryat-Mongol ASSR/, Works of the First Conference for Exploring the Productive Powers of the Buryat-Mongol ASSR, 2 vols., (Moscow-Leningrad, 1935-36), Vol. II.

313 The use of the wood is determined in terms of area by the development of transportation. The exploitation of the forests is limited to the area of the Selenga and its tributaries, which carry down the cut wood for the most part to Ulan-Ude or Il'inskoye for processing. The forests are also exploited in the regions near the shores of Lake Baykal, where wood processing industries have arisen at the mouths of the Barguzin and of the Upper Angara. The most important plant in this area is in Mysovsk /now: Babushkin/, where a great lumber works with sixteen saw sashes is situated /saw frame/. The railroads should also be mentioned as the last supplying line for exploiting /171/ the forests, while all the remote forests still remain in their natural state.

311 In Chita Oblast the forest conditions are similar, but here the
313 percentage of actual forest is somewhat greater than in the Buryat-Mongol ASSR. The exploitation of the forests is limited to the regions near the railroad and to the areas neighboring on the Amur and its tributaries. The main processing centers are Chita, Khokhotuy, and Bada.

311 The percentage of forested areas in the other Far Eastern regions appears slight, being 37 percent for the forested areas and 21 percent for areas actually stocked with trees. This is explained by the fact that to these regions also belong the areas of the northeast, such as the Chukchi and Koryak peninsulas, the Okhotsk coastal area, and Kamchakta, which in part are completely without forests or have only slight forests. This is also explained by the great difference between the general forest potential (104.2 million hectares) and the area stocked with forest

(58.9 million hectares). If we set the general forest potential at 100 percent, then, according to the Atlas of Sources of Energy in the USSR, there should be subtracted from this 1.1 percent for meadows and pastures (1.1 million hectares), 24.7 percent for swamps, bare rock, and boulder slopes which are only slightly grown over (25.8 million hectares), 17.7 percent for bush growth areas, burned areas, windfallen trees, and other (18.4 million hectares), and thus 56.5 percent (58.9 million hectares) remain for the areas stocked with forests. 311

The bulk of the forests are thus divided between the south, i.e., the Amur and Ussuri regions, and the Maritime Krai. This is of very great economic importance, because these forests are thereby closer to the reach of man. In these areas the percentage of forests to the total area is also much greater than the general average. Thus, for example, the percentage of forest land in Khabarovsk Oblast is 66 percent, in the Maritime Krai it is 51 percent, and in the Amur Oblast it is 37 percent. The Oblast of the Lower Amur (28 percent) and the Zeya area (25 percent) have the smallest percentage of forest area here. Sakhalin is among the areas richest in forests. In northern Sakhalin the percentage of forest area is 66 percent, and in southern Sakhalin which was formerly Japanese, it even reaches 85 percent (2.9 million hectares).

The stocked forest areas (not including southern Sakhalin) are divided among the various types of trees as follows: 311 137

Conifers:	84 %, with	larches	36 %
		spruces	27 %
		cembra-pines	12 %
		pines	8 %
		firs	1 %
Deciduous trees:	16%, with	birches	9 %
		oaks	4 %
		lindens	2 %
		ashes, aspens	1 %

The deciduous trees in particular increase toward the south, and accordingly, in comparison with the general averages given in the above table, the percentage of valuable deciduous trees in the Ussuri region and in the southern part of the Maritime Krai is much larger.

The supply of wood in the Far Eastern forests is also larger in comparison with Transbaykal, for in the Far East 70 percent to 80 percent of the trees are ready to be cut down. The total wood supply in the

forests here is estimated to be 6.5 billion cubic meters, of which 5.4 billion cubic meters consist of coniferous wood.

The entire river network of the Amur, with its numerous tributaries which are navigable by ships and rafts, facilitates the exploitation of the forests, and accordingly a significant wood industry has been able to develop in the Amur and Ussuri regions. Khabarovsk and the surroundings are regarded as the base of this industry. From there the bulk of the wood-processing industry extends to the south, following the leading line of the Ussuri and always lying on the tributaries of the Ussuri. Here, from north to south, lie the wood centers of Khor, Dormidontovka, Bikin, Lesopil'nyoye, Lesozavodsk, and Vladimirovka. Another base for the wood industry is formed by Vladivostok and its environs with the towns of Okeanskaya, Shkotovo, Lukyanovka, and Tigrovka. Sovyetskaya Gavan' has very recently become the most important wood-processing center on the coast of the Sea of Japan. Komsomol'sk has received a large works for producing cellulose and paper. Aleksandrovsk on Sakhalin and Petropavlovsk on Kamchatka have in the last few years also been equipped with wood-processing plants.

The total amount of wood cut has increased significantly in comparison with the period before World War II. According to careful estimates, the amount of wood cut during the year of 1952 can be assumed to be 5 million cubic meters in the Buryat-Mongol ASSR, 6 million cubic meters in Chita Oblast, and 30 million cubic meters in the other Far Eastern regions. Considering all the circumstances, this estimate is more likely to be too low than too high.

The Soviet Union has acquired an important supplement to its wood economy by its acquisition of southern Sakhalin. The Japanese had built up an excellent wood industry, which before the war consisted of 68 saw mills and 11 large cellulose and paper factories. Karafuto exported annually to Japan more than 1.2 million cubic meters of wood and many times the value of this wood in cellulose and paper. What importance the wood-processing industry had for the economy as a whole is indicated by the industry's share, in terms of value, in the total production of Karafuto. The share of industry in Karafuto's production was approximately 60 percent, and of this 60 percent the cellulose and paper factories alone provided around 90 percent, and the entire wood-processing industry 92 percent. All this now stands at the disposal of the Soviet Union.

Power Economy

Available as sources of energy are above all the known energy 371
materials such as coal, oil, peat, and wood, and, in second rank, water power. Coal has a prominent position in terms of its share in the present production of energy. Oil claims second place. Peat and wood play a very decisive role only in certain places, while a beginning has been made only in the last few years in the exploitation of water power. More exact figures on the economic contribution of the various sources of energy cannot be made since no publications are available on this subject. This applies also to the production of electrical energy, which is to be treated next, and about which only a generalized picture also can be drawn.

In its numerous coal deposits, which are scattered widely over 377
the land, Transbaykal has the best conditions for supplying itself regionally both for industrial purposes and also for the production of electrical energy. Here, too, the first modern beginnings were made in moving the production of electrical energy into the coal areas themselves and transporting the current instead of the coal to the centers of consumption. The steam power plant of Tomcha must be named here in first place: it is based on the coal of Lake Gusinoye and was built a few years ago in the vicinity of the railroad line from Ulan-Ude to Naushki. It has the task of supplying electricity to the wolfram mines, and it is assumed than an overland line leads into the regions of the upper Dzhida. The coal deposits of Kholbon also have an older power station (around 10,000 kilowatts), which also supplies both the city of Nerchinsk (over 25 kilometers away) and the gold works of Darasun (60 kilometers away) and of Baley (50 kilometers away). Power stations have also been erected in the coal deposits of Bukachacha (around 9,000 kilowatts) and of Kharamangutsk (around 3,000 kilowatts); these power stations, however, only serve the mining installations on the spot. All the larger cities and also the more important localities on the railroad line have their own heat power stations; coal must be hauled to these stations over a more or less long distance. For Ulan-Ude and Chita, which have the largest installations, there is the peculiar picture, arising out of the historical development, that both cities have several power stations where the capacity of the plant-owned power stations, which were built later, exceeds that of the older power stations which supply the cities' needs. In Ulan-Ude, for example, the power station of the locomotive factory (27,000 kilowatts) exceeds the city power station by several fold in

377 indicated power. Chita has five power stations with a total capacity of around 50,000 kilowatts; these power stations are driven by coal from Chernovskoye. Only the railroad repair shop has built its power station in the coal district itself. Petrovsk-Zabaykal'skiy has its own power stations. While all the above-mentioned power stations use coal as their heating material, the plants lying at a distance /174/ from the railroad line, such as, for example, the non-ferrous metal combinat, employ mixed firing, using peat and wood of local origin. The use of water power has in general still not gotten beyond the stage of research and planning. In 1948 the first water power station was erected on the Kyngorsk waterfall, but this power station is only of a limited size and is destined to supply agriculture only. There are reports from various regions of the erection of this type of small power station of the framework of sovkhoz and kolkhoz.

In the Amur area we find approximately the same picture. All the larger localities have their own power stations. Energy networks do not exist, and accordingly the individual central power stations, apart from Raychikhinsk, have to be supplied with energy materials from outside. Since the coal deposits here are smaller in number and are much farther from one another, the supplying of the stations is more difficult than in Transbaykal. Accordingly, the power stations employing mixed firing constitute the great majority. Here in the Amur country such plants also exist in the localities along the railroad line. In addition to coal, wood and--the farther one goes to the east--oil also are used. Some localities such as, for example, Birobidzhan, even have electrical works which are based only on oil. In general, however, coal predominates, with the greater part of the Amur area dependent on the import of brown coal from Raychikhinsk. In terms of transportation, the localities north of the arc of the Amur are most unfavorably situated, for the next coal area which comes into question as a source of supply, lies more than 700 kilometers away. It is therefore understandable that mining of a new coal field has begun at Magdagacha, which is more favorably located in terms of transportation. The power stations of Svobodnyy (around 5,000 kilowatts) and of Kuybyshevka (3,000 kilowatts) employ mixed firing, while that of Blagoveshchensk (25,000 kilowatts) uses coal. The coal area of Raychikhinsk supplies itself with energy as well as the industrial localities of Zavitaya and Bureya, which are not insignificant, although these two lie only about 40 kilometers from the coal center. Khabarovsk has five power stations, of which the largest, with its more than 10,000 kilowatts of installed power, serves to supply the city. The others are

installations owned by plants (each station has a capacity of approxi- 377
mately 4,000 kilowatts). An extension of the power installations gives the prospect of raising the total capacity of Khabarovsk to 50,000 kilowatts. The most important power station in the Amur area (45,000 kilowatts) is in Komsomol'sk. Another power station is under construction there. Nikolayevsk on the Amur also has a very important power station which supplies the industrial installations in the environs, too. The use of the water energy so abundant in the Amur area is still in the beginning stages. A larger water-power station is supposed to have been built between Khabarovsk and Komsomol'sk in the years after 1947; this station was to serve as supplement for these two cities. However, nothing is known of the station's location or /175/ output. Water power is used more extensively in the building of small, country power stations within the framework of kolkhoz and sovkhoz or groups of these. In 1950, for example, a larger power station was built to supply four kolkhoz. While in 1950 the state of electrification in the Amur area was still designated as insufficient, it appears that since then special efforts have devoted to this task. In 1952 ten of the thirty kolkhoz in the lower Amur area already had their own power stations, while power stations were under construction in the remaining twenty. Similar success stories come also from the rest of the Amur region. The strength of these agricultural power stations is mostly very slight and, as a general average for the Soviet Union, lies between 26.0 kilowatts and 55.6 kilowatts. The fishing kolkhoz also have their own small power stations. Thus six additional power stations were built on the coast of the Sea of Okhotsk in 1949, three were built in 1950, and four in 1951.

Petropavlovsk, the capital of Kamchatka, has a power station (12,000 kilowatts), which uses coal and oil. As in the other areas, electrification of agriculture here too is done by small power station. In 1952 the supply of current to ten kolkhoz was assured by newly constructed installations.

A large heat power station is available on the spot to supply the harbor and the industry of Magadan, and an additional power station in Seymchan supplies the gold mining district on the upper Kolyma.

The southern part of the Maritime Krai around Vladivostok is the furthest advanced in its electrification by reason of the coal districts lying close to one another. Accordingly even the railroad lines are electrified. The most important power station (50,000 kilowatts) lies in the brown coal region of Artem in the vicinity of the Ugol'naya

377 station and, in addition to supplying the railroad, it also supplies additional power to Vladivostok. Vladivostok itself has two power stations (12,000 and 13,000 kilowatts). In addition the dockyard has its own installation (around 6,000 kilowatts). The coal district of Suchan is equipped with a power station of its own (6,000 kilowatts), which also supplies current to the surrounding industries. While all the above-mentioned plants rest on coal firing, the claim that the power stations in Voroshilov (two with 6,000 and 5,000 kilowatts) and in Spassk (9,000 kilowatts) employ oil firing appears somewhat unexpected. All the larger localities along the Ussuri Railroad, which contain wood industries predominantly, have their own power installations with mixed firing; for this, next to coal, wood scraps are used primarily. Agricultural power stations are also numerous in the Maritime Krai. By 1950 there were already more than 100, although the supply of current for the countryside was designated as insufficient.

The following have power stations on the coast of the Sea of Japan: the harbor of Tetyukhe (around 3,000 kilowatts) and Ol'ga Bay (6,000 kilowatts). /176/ Sovyetskaya Gavan' has received a new important installation (25,000 kilowatts) to supply the wood and shipbuilding industries there.

On Sakhalin Island there is a power station in the oil region of Okha (24,000 kilowatts) and a coal power station in Aleksandrovsk (approximately 10,000 kilowatts). In the part of the island which formerly was Japanese almost all the coal mining districts have their own central power stations, which, however, have only a small capacity which is used for local needs.

If one surveys the state of development in the supplying of energy in the whole Far Eastern region, one is struck generally by the spotty distribution of power plants of all sizes. They were erected everywhere where energy was needed, with the question of transporting the energy material mostly playing only a subordinate role. As a result of this selection of locations there is a heavy burden on the means of transportation, which have to provide for bringing in the materials. The great step to converting energy minerals, especially coal, into electrical energy at the spot where the mineral is deposited and then transporting the electricity itself has still not been made. To be sure, a restraining factor toward taking this step is the great distances, but these distances in individual cases are not so significant that they could not be overcome by a power network. Also striking is the slight use that has been made of water power in large installations, although the

Soviet Union can rely on rich experience in the execution of projects of this type. Sufficient preparations in this direction have been made, as is summarized in the Atlas of Sources of Energy in the USSR, and from these preparations it can be seen what significant sources of energy, precisely in water power, still lie unused. The potential energy of water power in the Buryat-Mongol ASSR is estimated to be 7 million kilowatts. Chita Oblast is considered to be less favorable. The other Far Eastern regions are all the more richly equipped: their energy is reckoned to be 31 million kilowatts.

The Processing Industry

Some of the various branches of the processing industry have already been mentioned in the discussion of the raw material concerned. This applies especially to the wood and fish industries, which far exceed all other industrial branches, both in the number of plants and in the number of employees in these plants. From the extraordinary wealth of fish and wood it follows that the Far Eastern regions can not only supply themselves with these products but also that with their surplus they can contribute significantly in increasing measure to the supplying of the other parts of the Soviet Union. Wood, wood products, fish, and fish goods, therefore, form also the principal freighted goods which are sent out of the Far Eastern regions. World War II has had an extraordinary influence /177/ on the development of the other branches of industry. Various plants which had been moved to the Far East remained there after the end of the war; other plants were newly created or switched to another type of production in order to replace the loss in production in the areas affected by the war or also to ensure their own needs. Thus the supply situation today is generally more favorable than before World War II, and after this war it has been further improved by the erection of new installations.

In the selection of the location of the industrial plants the same principle apparently appears again and again. This principle is to so distribute these plants regionally in the vast area of the Far Eastern regions so that long transportation hauls are avoided as much as possible. The goal of this planning is to so equip the various areas with industrial plants so that each region can supply its own principal needs. The best example of this is the city of Magadan, from which the mining districts on the upper Kolyma are supplied and whose harbor is free of ice for scarcely six months. Besides repair installations for ocean-going ships

433 and repair shops for motor vehicles, factories have arisen here in which dredges, drilling machines, and other mining needs are produced. There are even factories for the production of glass, crockery, and electric lamps (Pravda November 12, 1947); these factories, according to various announcements, even exceed their annual quota. For these reasons the growth of the city to more than 50,000 inhabitants (1950) is understandable. But, on the other hand, large plants also appear here; mostly they are oriented toward raw materials, and their founding for the most part goes back to the second Five Year Plan. These plants are responsible for supplying extraordinarily large areas, indeed in part for the entire Far Eastern region. This results naturally not only in a burdening of the transportation system but also to inconveniences in regular supplies.

396 Shipbuilding has been fostered with the greatest of energy in the last few years. If Vladivostok with its dockyards for military and commercial ships was the leader in the past, it is at present surpassed by Komsomol'sk in this connection. Nothing has been announced about the capacity of the dockyard installations, but the estimate of the costs for building dockyard installations under the second Five Year Plan give a certain idea of the size of these installations. These costs were six times as large as the sums that were laid out for building the Marty ship dockyard in Nikolayev on the coast of the Black Sea in the Ukraine. This yard was built at approximately the same time and has six docks. The first sea-going ship left Komsomol'sk in 1939. Since then the dockyard installations here have been further expanded. According to their supplying plant, "Amur Steel," whose costs were somewhat higher, the Komsomol'sk dockyards are absolutely the largest plant which has been built in the Far East. The known shipyards in Vladivostok, in Nakhodka in the same area, and also in Nikolayevsk at the mouth of the Amur and in Khabarovsk /178/ have been further expanded. New shipyards have come into being in Sovyetskaya Gavan', in Petropavlovsk on the Kamchakta Peninsula, in Aleskandrovsk on Sakhalin, and in Magadan, which has already been mentioned. In the last two places named, however, there were not new constructions; only repairs were made. Warships were built in Vladivostok, Komsomol'sk, Khabarovsk, and Nikolayevsk. Sovyetskaya Gavan' is supposed to have been expanded recently as a base for smaller man-of-wars. Dockyards in the various river areas are available for building river vessels. Ulan-Ude takes care of the Selenga shipping. In the Amur area there are three dockyards: Kokuy near Sretensk on the Shilka, the left source

river of the Amur; Blagoveshchensk with the important Lenin Dockyard at the mouth of the Zeya; and Khabarovsk at the beginning of the lower course of the Amur. 396

In the machine industry the construction of transportation machinery in especially large plant installations is in the foreground. The railroad workshops of Ulan-Ude, Chita, Khabarovsk, and Ruzhina near Vladivostok serve to supply and maintain the railroads; all of these workshops are large installations. The most important of these is the plant for the construction of locomotives and railroad cars in Ulan-Ude. It constitutes an entire section of the city, which, according to a Soviet report, has three times as many inhabitants as all of Ulan-Ude (Verkhne Udinsk) before World War I. Since at that time the city had approximately 15,000 inhabitants, approximately 45,000 persons must be connected with this plant in some fashion. This also corresponds to the importance of the plant which is competent to supply the railroads not only of the Far East but also of all east Siberia. According to the plant's projected capacity, it is supposed to be in a position to deliver 2,000 passenger cars and up to 12,000 freight cars a year in addition to an undetermined number of locomotives. The other large railroad workshops mentioned above are in a position to repair locomotives and to overhaul them completely and also to a limited extent to build railroad cars. The base for motor vehicle production lies in Khabarovsk, which in the "Kaganovich Plant" has the largest installation of this type in the Far East. Airplane factories exist in Khabarovsk and Vladivostok. In contrast to the industry for transport machinery, the construction of agricultural machinery is distributed among a large number of places. Only Khabarovsk has a large plant. 397 398 399 407

In the building materials industry, with progressive industrialization, the need for modern building materials grew so much that a bottleneck has arisen here. Numerous small brick works and lime kilns must first be created, which are scattered over the vast areas and which in each case satisfy the local needs. A mechanized large brick-works was brought to life in the city itself for the building up of Komsomol'sk. The need for cement which is especially great had to be covered for the most part by other regions in the Soviet Union /179/ up to the beginning of World War II. 339

Up to 1937 there were in the Far East only two cement factories, which were in Spassk north of Vladivostok. Production here in the same year was 164,000 tons. By 1942 this production had already reached 525,000 tons. In this output the production of the cement

339 factories newly created in Komsomolsk, Khabarovsk, and Londoko in Birobidzhan shows. The last-named cement plant has very recently been expanded into the largest such plant in the Far Eastern region next to the plant at Spassk. For the supplying of Transbaykal a cement plant has been newly erected in Temlyuy, 98 kilometers west of Ulan-Ude.

288 In light industry, a new cloth factory in Ulan-Ude is worth mentioning. It was moved here in 1941 and since then it has been so greatly expanded that it delivers several million meters of cloth a year. It is the first cloth factory in the Far Eastern regions. In Birobidzhan there is an important plant in the clothing and knitting goods industry; Khabarovsk and Vladivostok have additional large undertakings in the manufacture of ready-made clothing. In the fu
295 goods and leather industry there are two outstanding central points t be mentioned, both of which are in Transbaykal: Chita with the largest fur and leather works in the Far Eastern regions; and Chikoyskiy Zavod, which lies east of Kyakhta on the river of the same name, which draws its raw materials from the Mongolian People's Republic. The production of Chita alone is sufficient to supply all of east Siberia with furs and leather. Shoe and other leather goods factories exist in various places. The shoe factories produce approximately 3 million
323 pairs a year. Only one plant--although, to be sure, one of large dimensions--is available to supply a large part of the Far Eastern regions with glass, glass goods, crockery, and porcelain. This plant lies in Ulan-Ude and represents the largest glass and glass goods factory in Siberia. In addition to window and mirror glass, it also supplies special glass for special purposes. According to the projected capacity it is supposed to be in a position to deliver 14,000 tons of plate glass and 6,000 tons of mirror glass. Ulan-Ude is responsible for supplying all of east Siberia with glass. Mention has already been made of the glass factory in Magadan. A smaller factory is supposed to still exist in the Vladivostok area.

256 The food and luxuries industry is represented by numerous small plants in the agricultural regions. Khabarovsk, Svobodnyy, and Blagoveshchensk have large mills. The first two have a processing capacity of 200 tons of grain per day; the Blagoveshchensk mill is supposed to be even bigger. The large bread and other baked goods plants, which are typical of Soviet cities, are also to be encountered here.
255 Khabarovsk has the most important installations of this type. The surplus of meat produced in Transbaykal are processed into preserved products and canned goods in the two meat plants in Ulan-Ude and in Chita.

Chita. Until a few years ago there were only two sugar factories in Voroshilov (Ussuri-Khanka Area) to supply the sugar needs. The largest of the two could process up to 1,400 tons of sugar /180/ beets a day. In order to supply Chita Oblast and the Buryat-Mongol ASSR, the cultivation of sugar beets has been begun there since 1943, and a sugar factory has been built in Bichura in the Buryat-Mongol ASSR. Another such factory is supposed to be built in Chita. The extraction of plant oils is done primarily by two large oil mills in addition to numerous small installations which are part of agricultural establishments. One of these large oil mills is in Blagoveshchensk, where primarily sunflower seeds are processed; the second of these large oil mills is in Voroshilov. It specializes in the processing of soy beans and perilla seeds.

/181/ TRANSPORTATION

General Significance of the Transportation Situation

The pressure (to have access) to the sea was the real reason for the unrelenting march of the Russians to the Pacific. The unfavorable situation of the Sea of Okhotsk caused them to turn to the south, where the mouth of the Amur awakened hopes in them. With obstinate patience they endured one and a half centuries until this goal, too, was attained. Their hopes, however, were disappointed. Nikolayevsk at the mouth of the Amur did not prove itself to be a suitable harbor and open door to the Pacific. In Vladivostok a more favorable place and an excellent harbor was found, but it developed slowly because the immediate hinterland was still not developed and the route from Siberia through Russia's own territory via Khabarovsk was too far. Thus, by virtue of a treaty with China, the "Chinese East Railroad," as the Russians call the north Manchurian railroad, was laid as a straight line crossing through Manchuria, even before the Amur railroad was built. With this the way to Vladivostok was shortened by about 1,000 kilometers. The north Manchurian railroad was completed in 1904; the Amur railroad, on the other hand, was completed only in 1916. The harbor in Vladivostok, however, is closed by ice for an average of 110 days, and during this period must be kept open by ice-breakers. So the glance of the Russians shifted to the south and rested in the harbor of Dal'nyy, "the far away," which was later renamed Dairen by the Japanese. From Harbin the Russians laid a railroad to Dal'nyy and laid out Port Arthur to protect the naval port. The route from Harbin

489 to Dal'nyy was, to be sure, 325 kilometers longer than the route to
648 Vladivostok, but the ice barrier in Dal'nyy was scarcely noticeable, and a second access to the Pacific was attained. In the Russo-Japanese War, to be sure, this southern position was lost, and in 1935 the north Manchurian railroad, too, was lost through forced sale. However, the outcome of World War II brought all these positions again into the hands of the Soviet Union, who restored the earlier situation by new treaties, and who thereby shows that she will pursue again the old path of the Czars. And the day is no longer far off when a railroad will lead from Ulan-Ude in Transbaykal via Ulan Bator (Urga) to Peking and Tientsin. As she did in the case of the Manchurian route, the Soviet Union can, on the basis of treaties, create another way out, which, going from Ulan-Ude directly to the sea, is more than 500 kilometers shorter than the route to Vladivostok. Only the middle piece is still missing.

648 /182/ As a result of this transportation situation, the Soviet Union exercises extensive influence on the neighboring regions. When the north Manchurian railroad was built from 1897 to 1904, northern Manchuria was extremely lightly populated. Harbin, at that time a small fishing village, already had a population of 470,000 by 1938. With the growing settlement of the land the influence of the Russians also grew, working through the railroad lines which were the nerve centers of life and of the economy. The influence of the Russians was especially great in northern Manchuria which was principally settled after the construction of the railroad; and even the Japanese were not able to eliminate this influence in the period from 1931 to 1945. It can be assumed to be obvious that this influence will begin to grow anew since the main economic channels again have received Russian blood. In this growth of influence, the limits are not in sight. In this the fact that Manchuria is surrounded geographically in the east by the Ussuri county, which in Vladivostok has the closest world harbor for northern Manchuria, is of just as great significance as the fact that northern Manchuria is surrounded on the west by the Mongolian People's Republic. And here Transbaykal plays a particular role. It represents not only a natural continuation of the Mongolian landscape; but also the Buryat Mongols are the closest relatives of the Khalkha Mongols, and, under Russian and Soviet Russian rule, the Buryat Mongols culturally and economically have attained a great jump ahead of their brothers on the other side of the border. From this an influence which will have an effect over the border can be explained as perfectly natural,

without any additional reasons. It must also be assumed as obvious that Buryat-Mongol relationships in the Soviet Union served as a model in the formation of the Mongolian People's Republic and its organization into a state, and also that thereby the influence of the Soviet Union has grown far beyond its political borders.

Land Transportation

Transportation acquires a striking importance with the size of the area. The development has shown that the transportation installations were not created because there was a necessity based on the economy of the region itself, but rather that the transportation-political standpoint of the entire state was decisive for the various transportation installations. The Amur railroad and also the Ussuri railroad were for their part built through regions which were often completely uninhabited or settled only extremely slightly. Only with the construction and after the completion of these railroad lines did people stream in in larger numbers, and accordingly the railroads became pacemakers for the colonization and development of the economy. Even today it is still so. Connection with the transportation system is the necessary condition for winning new settlement areas and for exploiting the rich natural resources of this vast land.

With the slight density of population, transportation installations, such as for example the railroads, which required a great expenditure of capital and labor, often /183/ prove themselves to be unsupportable economically, unless these installations correspond to another, higher point of view, or are built for the future in a far-sighted fashion. In both cases it is up to the power and the enterprising spirit of a great state organism to carry out mighty tasks of this type. That was the case with the old Russia and it is also the case with the Soviet Union. At any rate the slightness of the railroad network goes back to these reasons. In contrast to these, however, the transportation installations, whose introduction required only slight outlays of money, are much better developed. To this category belongs water transportation, whose present state, according to the judgment of Soviet specialists, exceeds even that of the European part of the USSR. Also in this category is air transportation.

The railroads are the main bearers of the traffic. The eastern part of the Trans-Siberian Railroad constitutes the main vein. It runs from Lake Baykal via Ulan-Ude and Chita across Transbaykal, and then,

49 always at some distance from the Amur and the Ussuri, it runs to Vladivostok. In Karymskoye, east of Chita, the Manchurian line branches off from the Trans-Siberian Railroad. The Manchurian line leaves Soviet Russian territory after the border station of Otpor and runs via Harbin to the southeastern part of Manchuria. At Grodyekovo it again enters Soviet Russian territory and in Voroshilov (Nikol'sk-Ussuriski) it meets the Ussuri Railroad.

In terms of administration the railroad lines are under four directive bodies and bear different official names:

1. The East Siberian Railroad. The central administrative office is in Irkutsk. Its sphere stretches from Tayshet to Kizhi, and lies on the administrative border between the Buryat-Mongol ASSR and Chita Oblast. Under this directorate the total length of railroad lines, including side railroads, is 1,304 kilometers.

2. The Molotov Railroad. Its administrative seat is in Chita. Its administrative sphere extends from Petrovsk (the first station east of Kizhi) to the Ksen'yevka station on the upper course of the Black Uryun. The total length of the railroad line is 1,330 kilometers.

3. The Amur Railorad. Its administrative seat is in Svobodnyy. Its administrative sphere extends from Ksen'yevska up to but not including Arkhara station, which is east of Bureya. The total length of its railroad line is 1,498 kilometers.

4. The Far Eastern Railroad. Its administrative seat is in Khabarovsk. Its administrative sphere extends from Arkhara to Vladivostok. The total length of its railroad lines is 1,989 kilometers.

This purely administrative division is very impractical from a geographical point of view. Therefore from way back a division into three has seeped in, namely: 1. The Transbaykal Railroad from Mysovaya, where it leaves Lake Baykal, to Kuenga, where the railroad turns to the north from the valley of the Shilka and from here begins to follow the course of the Amur; 2. the Amur Railroad from Kuenga to /184/ Khabarovsk; and 3. the Ussuri Railroad from Khabarovsk to Vladivostok. The above classification of the individual railroads is used in this work.

Since the route via Manchuria (Harbin) to Vladivostok is about 1,000 kilometers shorter than the indirect route via Khabarovsk, the main traffic from the Soviet Union to the east takes the Manchurian route; and to the Amur and Ussuri railroads there remains only a secondary, more local rank. Since they, however, run through Russia's own territory, they receive the task of maintaining a second position, a

substitute line, which is put into action immediately if the first railroad line is disturbed for any reason. This was the case during the period of Japanese rule in Manchuria from 1931 to 1945. It was during this period that the pressing necessity of a second track for the eastern part of the Trans-Siberian Railroad first arose. The second track for the stretch from Ulan-Ude to Urusha (1,570 kilometers) was laid from 1933 to 1935; the stretch from Urusha to Khabarovsk (1,314 kilometers) was laid from 1934 to 1936; and the stretch between Khabarovsk and Vladivostok (768 kilometers) was not laid until 1936 to 1939. The North Manchurian Railorad, on the other hand, was built with two tracks from the beginning. Of greatest importance is the fact that the Russian track width was not changed in Manchurian territory from 1931 to 1945, and, accordingly, the railroad line was available for the use of the Soviet Union immediately after the end of World War II. In the period from 1905 to 1945 the Japanese changed only the South Manchurian Railroad (Harbin to Dairen) to the Japanese track width (normal tracks), while the North Manchurian Railroad was always traveled by Russian locomotives and Russian railroad cars. 496

The construction of the Transbaykal Railroad began in 1895 and was supposed to be completed in 1898. However, a flood, such as Transbaykal had never experienced, caused such extensive damage that it was only in 1900 that traffic could cover the entire stretch. Construction of the line was very difficult. The ground in Transbaykal is permanently frozen and thaws in the summer only to a depth of one to two meters. As a consequence of this, the work had to be done during the warm part of the year with dynamite under the thawed out layer of earth; this turns the thawing masses of frozen earth into a thick porridge /Brei/. The installation of water conduits was especially difficult. In order to prevent freezing, the water pipes had to be laid in wooden galleries which could be heated. Since according to the construction specifications only Russian materials could be used, these materials had to be procured in part via Vladivostok and Khabarovsk. For this purpose state shipping was established on the Ussuri, Amur, and on the Shilka as far as Sretensk. This resulted at the same time in a permanent opening-up of this waterway. 499

The section from Sretensk to Khabarovsk was originally envisaged as a continuation of the Transbaykal Railroad to the east. The marking /185/ out of this line, however, pointed up such great difficulties and such unfavorable economic conditions that this plan was

499 abandoned and it was decided to build the railroad from Transbaykal to Vladivostok across Manchuria. Negotiations with China led in 1896 to a concession to the Russo-Chinese Bank for the construction and management of a railroad through Manchuria; this railroad received the name of East Chinese Railroad. The East Chinese Railroad Society, founded on the basis of this concession, received the right to manage the railroad for eighty years after the opening of the line. After this period the railroad was to fall to China without compensation. The society was further required to construct a connecting railroad from the eastern border of Manchuria to Nikol'sk-Ussuriski, the present day Voroshilov, and also to erect a railroad line from Harbin to the ice-free south Manchurian harbors of Dal'nyy and Port Arthur. The main line from Manchuria to Grodekovo was begun under Russian direction in 1897 and was completed in 1904. The completion was delayed so long because the rebelling Chinese in the Boxer Rebellion of 1900 completely destroyed approximately 950 kilometers of the 1,350 kilometers completed. The result of this was the occupation of Manchuria along the main lines by Russian troops, which remained until 1904-1905, and, consequently, the Russo-Japanese War could be fought out on Manchurian territory.

The construction of the last part of the Trans-Siberian Railroad between Vladivostok and Khabarovsk occurred before the completion of the Amur Railroad. The consturction of the southern half began in 1891 and was completed in 1894: the northern half was completed from 1894 to 1899. The resolution of the labor question was especially difficult here in the regions still little populated. As with the Transbaykal Railroad, this problem was alleviated by the use of military detachments, prisoners, and forced settlers.

There was the longest hesitation on the construction of the Amur Railroad. The inexact knowledge of the land, the vast uninhabited areas, the unfavorability of the climatic and soil conditions, and the great length of approximately 1,500 kilometers were discouraging. Decisive for the decision was the outcome of the Russo-Japanese War. In 1908 construction was begun on partial stretches, and only in 1916 was the entire stretch open to traffic. Here, too, permafrost was one of the greatest difficulties. Heaped up railroad embankments melted away often and breaks in the ground were filled up again and again by solifuction. Water had to be drilled from layers which lay under the frozen earth. The strict specification, which applied here, too, that only Russian workers and no yellow-skinned assistants were to be used

in the construction, attained brilliant results not only because many millions of rubles remained in the country but also primarily because it fostered colonization. Many thousands of workers, who were recruited from Russia, learned to know the Amur country and settled in the land after the completion of the construction. 499 [167]

/186/ The Trans-Siberian Railroad leads through the most important localities in the Far Eastern region. The distances between the most important localities are as follows in railroad kilometers: Irkutsk--Ulan-Ude, 490 kilometers; Ulan-Ude--Chita, 554 kilometers; Chita--Khabarovsk, 1,428 kilometers; Khabarovsk--Vladivostok, 768 kilometers; Karymskoye--Otpor (border station), 366 kilometers; Karymskoye--Harbin--Vladivostok, 1,981 kilometers. 496

A number of branch railways lead from the main line to localities which are important economically or in terms of transportation. On the Transbaykal Railroad and the Amur Railroad the following, from west to east, are to be cited.

Ulan-Ude	--Naushki (Mongolian border)	225 kilometers
Petrovsk	--Balyaginsk (iron ore)	19 kilometers
Tolbaga	--Khalyarta (coal)	8 kilometers
Ingoda	--Ildigun (wood, agriculture)	52 kilometers
Priiskovyy	--Nerchinsk (city connection)	10 kilometers
Kuenga	--Sretensk (Shilka harbor)	55 kilometers
Pashennaya	--Bukachacha (coal)	73 kilometers
Skovorodino	--Dzhalinda (Amur harbor)	60 kilometers
Ushumun	--Chernyaye (Amur harbor)	38 kilometers
Kuybyshevka	--Blagoveshchensk (Amur harbor)	109 kilometers
Bureya	--Raychikhinsk (coal)	43 kilometers
Arkhara	--Innokent'yeva (Amur harbor)	35 kilometers
Izvestkovyy	--Ust'-Tyrma (coal)	190 kilometers

Of these lines the railroad from Ulan-Ude to Naushki is of the greatest significance. It was completed in 1939 and leads to the Mongolian border. Since then it has been lengthened to reach Ulan Bator (Urga), the capital of the Mongolian People's Republic. Then, in addition, various side lines have been created in the last few years. Thus a railroad line leads from Skovorodino over 150 kilometers to Tyndynskiy in the area around the upper course of the Gilyuy, and there is supposed to be a connection to the new Baykal-Amur Railroad (BAM). Also the Izvestkovyy--Ust'-Tyrma line named last in the above list

496 has since been extended via Chekunda to Ust'-Niman in the upper area of the course of the Bureya, and today this line has probably already reached the wolfram-molybdenum plant at the mouth of the Umalta. In addition to its local task of opening up the Bureya coal fields, this railroad line is also regarded as a cross connection from the Amur Railroad to the BAM, which, according to the original plan, was to cross the Bureya at Chekunda. Furthermore, two new railroad lines from the Amur Railroad to the Amur River have been built, one from Zavitaya to Poyarkovo, which at the same time offers a new opportunity for transporting things from the brown coal district of Raychinkhinsk; and one from Birobidzhan to Leninskoye.

The opening up of the lower Amur country was also served by a railroad only completed in the last few years; this line leads from Volochayevka, always at some /187/ distance from the Amur and on the left side of the Amur, to Komsomol'sk, the new industrial city with much promise. On the right bank of the Amur, approximately opposite Komsomol'sk, there begins then at Pivan the great wooden railroad line which crosses the Sikhote-Alin' and then leads in a southeasterly direction to Sovyetskaya Gavan' (Soviet Harbor) to the coast of the Sea of Japan. In Komsomol'sk a railroad ferry joins the two lines.

From the Ussuri Railroad several wooden railroad lines penetrate into the Sikhote-Alin'. The branch from Manzovka to Turiy Rog should be named as the most important side line; for this line opens up the rich agrarian territory on the western side of the Khanka Lake. The environs of Vladivostok, which are rich in coal, are crossed by several lines. The most important branches off in Ugol'naya north of Vladivostok toward Suchan in the east, and with two sourthern branches in Dunay and Nakhodka it reaches the sea coast. In the last few years still another railroad line has been built which branches off in the north from Vladivostok, extends approximately along the west coast of the Bay of Peter the Great and ends in Kraskino at the Pos'yet Bay.

The greatest railroad undertaking of the present is the Baykal-Amur Railroad, which has already been mentioned. It is abbreviated as BAM (Baykal-Amur-Magistrale). A veil of secrets surrounds this railroad, which has been under construction since 1938 with its length of around 3,500 kilometers and which, according to various reports, which, however, are not reliable, is supposed to have been completed. It begins at Tayshet station which lies on the Siberian Railroad between

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Kansk and Nizhneudinsk, and leads via the Angara to the upper Lena, which it leaves before the mouth of the Vitim in order then to follow the Vitim to the mouth of the Kalar. The line then crosses the Kalar Massif toward the east, crosses the Olekma at the mouth of the Nyuksha, and extends to the valley of the Gilyuy, along which it runs as far as the mouth of the Gilyuy at the Zeya. Then the railroad line follows the breach valley of the Zeya through the Tukuringra Mountain Range toward the south and finally turns again toward the east. The Selemdzha is crossed at Norsk, the point at which its navigability begins, and the Bureya is crossed at Chekunda, the center of the greatest hard coal deposit in the Far Eastern region, a deposit which is just beginning to be opened up. The BAM ends in Komsomol'sk on the Amur. Various cross lines are supposed to provide a connection with the Amur Railroad, and of these two have already been completed. In its course, the BAM cuts through forested areas which are rich in wood but are still completely untouched; in the northern part of the Amur country the BAM crosses through the most important gold fields; and it opens up important deposits of natural resources. The construction difficulties are supposed to be extraordinarily great. It is a railroad of the future, and it is to be expected that gradually a belt of settlements will come into being following the railroad line; the railroad workers set up in permanent dwelling places, even now constitute the basis for such a belt of settlements.

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Since the main railroad lines and also the main water veins /188/ cross through the zone of settlements in the longitudinal direction from west to east, built up land routes in this direction are rare. The old Siberian tract, which before the construction of the Trans-Siberian Railroad crossed through the entire region in the longitudinal direction, has long since lost its significance as an overland route and today serves as a local connection. The Ussuri section is an exception. In the last few years this has been rebuilt from Vladivostok to Khabarovsk as an automobile highway with a firm understructure to supplement the railroad line. On the quality of this route a report says that approximately 18 hours are required to travel the approximately 770 kilometer long stretch in a passenger motor vehicle. Furthermore the greatest attention in the last few years has been devoted to extending this highway: above all it has been extended from Khabarovsk to Komsomol'sk and undoubtedly represents the most important highway in the Far East. Most of the remaining land routes have more the character of feeder routes; but regardless of this these routes are of great economic importance

491 and as a rule can be traveled by trucks.

Apart from the steppes of Transbaykal, where unhampered land traffic without building roads is possible throughout the year, land transportation in the Amur and Ussuri regions suffers from the great dampness of the ground and from the monsoon rains. The heavy rainfall which descends suddenly often destroys the roads and carries away the thin layers of the road bed. Where an understructure does not exist--and this is the case with most of the land routes--the routes become foundationless and become so quickly spoiled by heavy carting that using them is possible only with great difficulty. Also the high water of the rivers often tears away light bridges and by flooding breaks off the connections between the individual localities often for weeks.

Some land routes, however, have more than a local character and have the importance of overland routes. More care is also devoted to them. They are provided with a solid superstructure and good bridge installations, and, therefore, they are usable throughout the year by trucks, which are the principal means of transportation on these roads. In this connection the Kyakhta Tract should be mentioned first; formerly it had to overcome the exchange of goods with Mongolia. A western branch leads through the valley of the Dshida as far as Gorodok, the center of molybdenum extraction in western Transbaykal. From Chita a good route leads toward the north to Romanovskoye on the upper Vitim, and a second route leads directly toward the south to the upper course of the Onon to the tin mines of Khapcheranga and on the Sokhondo. An overland route of grand style takes its beginning at the Never station, which lies east of Skovorodino, and leads via the gold regions on the upper Gilyuy and Aldan to Yakutsk, the capital of the Yakut Republic.

In winter the rivers appear as valuable natural traffic routes. Their ice covering is so strong that they can carry the heaviest vehicles. /189/ The goods piled up during the summer not in the reach of the main traffic lines are then brought into the centers of the land with caravans of sleds or trucks. Even on the Amur and the Shilka long columns of motor vehicles are to be encountered during the winter.

However, already in the northern part of the Amur country all improved roads end. There begins the great wide north of the Far Eastern region, whose peculiar transportation conditions are to be treated in a special section.

Water Transportation and the Hydrographic Conditions

The development of water transportation has been favored by the fact that the most important regions economically belong to a single river area, that of the mighty Amur. Only the western part of Transbaykal has a water network of its own, but in its most important sections economically, western Transbaykal, too, is encompassed in a single river system, that of the Selenga.

The Amur is the largest river in the Far Eastern regions. It arises from two source rivers, the Shilka and the Argun, and the Shilka in turn is also formed by two source rivers, the Onon and the Ingoda. The longer of these is the Onon. If the Onon is taken as the real source river of the Amur, then the Amur has the great length of around 4, 330 kilometers. However, even the real Amur from Pokrovka, where the Shilka and Argun converge, to the mouth has the considerable length of 2, 846 kilometers. The entire river /drainage/ area of the Amur attains the immense size of 2, 054, 510 square kilometers. Of the rivers in the entire system which are at the disposal of the Soviet Union, 7, 079 kilometers are designated as navigable for steamers, and anothers are designated as navigable for rafts.

The upper course of the Amur is 901 kilometers long and extends from Pokrovka to Blagoveshchensk, i.e., to the mouth of the Zeya. On its left side the Amur receives here the Amazar, Oldoy, and the Zeya. Great heights, which are covered with coniferous forests and which are in part rocky, follow the course of the Amur along the upper part. Below Dzhalinda the heights retreat. On broad terraces cultivated stretches of land appear with numerous settlments. The river bed becomes wider. Flat sand islands emerge here and there. Tortuously and slowly the river winds along. The middle course of the Amur stretches from Blagoveshchensk to Khabarovsk, i.e., from the mouth of the Zeya to the mouth of the Ussuri; it is 992 kilometers long. Great and important tributaries flow into this section of the Amur: the Bureya comes in from the left and the Sundari and Ussuri from the right. The left bank here is for the most part formed from the flat Zeya-Bureya plain, while the right bank, which is Manchurian, appears hilly. The width of the river reaches 1 to 3 kilometers and more, but is pressed together to approximately 500 meters as it breaks through the Bureya Mountain Range. However, below Khabarovsk the 953 kilometer long lower course of the Amur stretches out into an extraordinarily wide lowland river with numerous arms and islands.

133 Here, too, the left shore is mostly flat and swampy; the right, on the other hand, is hilly and drier. Now and again mountain chains also appear /190/ on both sides of the river and force its masses of water into a closed bed. The last part of the river is closed in on both sides by mountains, although the river still reaches a width of 5 to 10 kilometers in places.

[506] The Amur is navigable for its entire length, and its source rivers, too, are still regularly traveled by steamers, the Shilka being traveled as far as Sretensk and the Argun as far as Olochi. The speed at which the Amur flows is varying and depends on the drop at any one spot. In this the river has to overcome three steps: the Great Khingan, the Bureya Mountain Range, and at the end the Sikhote-Alin'. The mean velocity of the Shilka and of the upper Amur is 5.5 to 6 kilometers per hour, that of the middle Amur is 4.2 kilometers, and in the lower course of the Amur the mean velocity is 3 kilometers and less. The conduction of water varies greatly, especially in the upper course, since here the source rivers, especially the Shilka, dry up almost entirely in the period of less water--and here this period is the winter. At this time the Shilka conducts only approximately 8 cubic meters per second at Sretensk, while at the same place it conducts 142 cubic meters when the water level is normal, and 420 cubic meters when the water is high.

The following table shows what quantities of water the Amur carries along in its various parts and the differences in the water fluctuations at the various localities:

Localities	Length of this section of the river in kilometers	Drop of this section of the river in meters	Water conduction, Annual mean in cubic meters per second	Minimum in cubic meters per second
From Pokrovk--				
Albasin	238	55	1,200	125
Chernyayevo	190	49	1,500	165
Kumara	213	39	1,700	200
Blagoveshchensk	226	33	1,800	220
Poyarkovo	164	17	4,000	550
Innoken'yevska	130	17	5,000	700
Yek. Nikol'skaya	252	36	5,500	850
Mikh. Semenovskaya	190	14	8,500	1,500

(Table continued on following page)

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Localities	Length of this section of the river in kilometers	Drop of this section of the river in meters	Water conduction. Annual mean in cubic meters per second	Minimum in cubic meters per second
Khabarovsk	258	15	10,000	1,800
Komsomol'sk	360	16.5	11,100	2,000
Bogorodskoye	410	12	11,700	2,100
Mouth	170	4.5	12,200	2,200

Corresponding with the water conduction, the water horizon fluctuates more in the upper parts of the river than in the lower parts. The range of the annual water fluctuation is 9.7 meters at Sretensk, a mean of 6 meters at Khabarovsk, and only a little more than 2.40 meters at Nikolayevsk. However, the high water which appears very suddenly as a result of downpours of rain in the summer, varies greatly from year to year. The floods from the mighty /131/ river area often break so quickly that they cause great destruction. The largest known flood was in 1872. At Blagoveshchensk the water rose 10 meters in a short time, and in the narrow break-through valley of the Bureya Mountain Range the water even rose 15 meters. The water masses pouring out wildly and in an unruly fashion tore along with them numerous settlements near the river and their people, animals, and property. The year 1928, too, was distinguished by an extraordinarily heavy high water, which brought the city of Blagoveshchensk into a state of great distress.

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Because of the ice covering the navigable period of the Amur is limited to the summer months. The mean duration of the ice-free period is 155 days at Sretensk, 170 days at Blagoveshchensk, 185 days at Khabarovsk, and again only 160 days at the mouth of the Amur. On the middle Amur the southern location makes itself felt, and at Khabarovsk the effects are felt of the emptying in of the great rivers coming from the south, the Sungari and the Usuri. These two rivers become free of ice earlier than the Amur and bring warm water into the Amur. In the periods of navigability the view is hindered in the mountain regions by thick morning fogs which force the ships to travel more slowly or even to stand still. Then rapids and stony areas constitute a hindrance in the upper part, and sand banks in particular constitute a danger for almost the entire course of the river. The sand banks consist mostly of soft, slimy masses of sand, which form in the river bed as

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longish heaps which are constantly being added to; and when the water is low, these sand banks also often emerge as islands. The lower Amur has no hindrances and can be used at all times by ships with a depth of up to 3 meters, and on the last 420 kilometers of the river it can even be used by ships with a depth of 6 meters and more. If broad, flat sand bars did not close off the entrance at the mouth of the river, sea-going ships could travel 100 kilometers into the Amur. The annual changes of the water conduction causes the ship traffic on the upper part of the Amur to be such that from May to August ships with a depth of 1.5 meters can go as far as Blagoveshchensk and ships with a depth of somewhat more than 1.0 meters can get as far as Sretensk on the Shilka without hindrance. In September, on the other hand, travel as far as Blagoveshchensk is dangerous for ships with a depth of 1.20 meters and travel as far as Sretensk is dangerous for ships with a depth of 0.90 meters. These limitations apply to through traffic and do not exclude the possibility that in individual parts of the river, where shallow places do not hinder passage, larger ships could also be employed without limitations in local traffic.

The Amur as the main water vein in the entire land receives its great importance for transportation only through its numerous and important tributaries. These are in large measure navigable by ships, and over even larger lengths navigable by rafts, and thus open up wide areas of the entire province.

The Shilka is the main source river of the Amur and drains the water from an area of more than 210,000 square kilometers. Its source river, the Ingoda, is navigable by rafts for 455 kilometers, and, when the water is high, it is hypothetically navigable by ships from approximately Chita on. The Ingoda itself and its right tributaries come from richly forested areas and bring /192/ to the Amur wood above all. The Onon is navigable by rafts for 550 kilometers. In its upper course it is a steppe river, and only in its lower course does it flow through forested region.

The Argun, with a total length of 1,580 kilometers, drains an area of 260,000 square kilometers. It rises in the Great Khingan in Manchuria, where it bears the name of Hailar, and it receives also numerous tributaries from the right. Thus it never suffers from a water shortage. On the other hand mountains appear right on the river at its lower end and produce various strong rapids. The bed is stony and not uncommonly is filled with large blocks of rock, which in many cases lie across the river like chains, making it very difficult for ships to

get through. Although its middle course along the border is 200 to 300 meters wide and has sufficient depth, which in places it up to 8 meters, the Argun is regularly traveled only on the last 54 kilometers. The floating of wood, on the other hand, is very active on the entire course of the river. 133 505

The Zeya with a length of 1,225 kilometers and a width of up to 2 kilometers, is the most important left tributary of the Amur. In its upper course it has a sharp drop, and only below its breach through the Tukuringra Mountain Range does it quiet down. The monsoon air masses, which are forced to rise in the mountains in the area around the upper course of the Zeya, bring especially heavy rainfall here. The water conduction reacts very exactly to this rainfall, and thus, according to the downpours of rain, high waters arise and the river then again and again goes over its normal banks. Thus during almost the entire summer the Zeya conducts a great deal of water and is hypothetically navigable for medium-sized steamers for 950 kilometers and even 1,100 kilometers for smaller steamers. Zeya-Pristan' (harbor) is the end point of the regular steamer traffic. Here the goods are stored up during the summer in large warehouses in order then in the winter to be taken by sled into the gold districts on the upper course of the Zeya and on its tributary, the Gilyuy. The new Baykal-Amur Railroad crosses the river at Zeya-Pristan'. From the left there flows into the Zeya the Selemdzha which is 690 kilometers long and which is navigable by ships as far as Norsk.

Water Conduction of the Zeya

Locality	Annual Mean in cubic meters per second	Minimum in cubic meters per second
Zeya-Pristan'	1,100	22
Tyda Estuary	1,350	45
Selemdzha Estuary	2,100	105
Mouth	2,350	125

The Bureya, the next large left tributary of the Amur, is 740 kilometers long and up to 700 meters wide on its lower course. The upper and middle course of the river flow through mountainous regions and conceal numerous obstacles. Thus the river, which is rich in water, is navigable only on its last bit. When /193/ the water level

133 is high, however, steamers get over 345 kilometers along the river as
505 far as Chekunda, indeed on occasion as far as the mouth of the Unalta. The Bureya is important as a supply route for the gold regions on its upper course.

The Zeya and Bureya bring a great deal of wood to the Amur.

Water Flow of the Bureya

Locality	Annual Mean in cubic meters per second	Minimum in cubic meters per second
Niman Estuary	392	8
Ushumun Estuary	579	11.5
Talakan Estuary	980	19
Daldakan Estuary	1,025	19.5
Mouth	1,067	20

The Ussuri River is on the border toward Manchuria. Its length, including that of its source river, the Daubikhe, is more than 900 kilometers, its width fluctuates between 100 and 1,000 meters. It is navigable by ship for its entire course, and it is regularly traveled even though sand banks and other shallows offer obstacles on the winding course. The Ussuri line is the best opened up in terms of transportation, for the main railroad and a highway also run in the direction of the river.

501 Water transportation in the Amur area is mostly served by small steamers with a mean of 500 indicated horse power and with a carrying capacity of their own of 250 tons. However, recently numerous larger vessels have also been employed which have been specially built for service here. As a rule wide, shallow-draft barks are used to transport goods; these barks have a carrying capacity of up to 800 tons and are mostly put together in trains of barges. The number of river steamers and tug boats in the 1930's was more than 200 and has since probably been enlarged. In addition to the transporation fleet, there is also an Amur war fleet, which has its seat in Khabarovsk and which consists of river gun boats with a size of up to 1,000 gross register tons.

133 The main part of Transbaykal to the west is drained by the system of the Selenga. The Selenga comes from Mongolia and rises
505 there from the two rivers, the Ider-Gol and the Muren-Gol. The length of the Selenga is 1,272 kilometers, its river area covers 511,464 square kilometers. Not far from Kyakhta it enters the territory of Transbaykal,

where it flows for another 414 kilometers. In this part the Selenga is 200 to 450 meters wide and has a mean depth of 1.6 meters. The mean velocity reaches 5.6 to 8.5 kilometers per hour. Apart from a bar off the mouth, which makes entrance into the river difficult, there are no large hindrances here, and accordingly the Selenga can be designated as completely navigable in this part. Occasionally smaller steamers travel 480 kilometers into Mongolia during the high water period in the summer. The period when the river is navigable lasts exactly half a year. The water level during this period fluctuates approximately 2 meters as a mean. Regular steamer shipping /194/ has developed as far as Ust'-Kyakhta. The tributaries are traveled as needed. The largest tributaries are the Chikoy, which is more than 740 kilometers long and is navigable by ship for 249 kilometers; the Khilok, which is 742 kilometers long; and the Uda, which is 403 kilometers long. The center of water transportation is Ulan-Ude, where there is also a dockyard for steamers and barks. In connection with the Selenga there is also water transportation on Lake Baykal and on the Angara as far as Irkutsk. The total number of steamers here in 1930 was 87, and the total number of barks was 185 in contrast to only 13 steamers and 18 barks in 1912.

The importance and the capacity of water transport on the Amur exceeds that of the Selenga by several fold. The following table gives a comparison:

Water Transport 1939
in 1,000 tons

	Total	Oil	Wood		Grain	Mineral Construction Materials	Salt
			By ship	By raft			
Selenga	200	7	7	91	45	14	1
Amur	1,305	191	11	645	186	65	13

Air Transport

Air transportation was early introduced into the entire Far Eastern region to overcome the great distances. The main line coming from Moscow leads via Chita and Khabarovsk to Vladivostok. Beside the direct line, flights are made along this stretch to the following localities: Ulan-Ude, Chita, Nerchinsk, Mogocha, Skovorodino, Tygdinsk, Svobodnyy, Arkhara, Birobidzhan, Khabarovsk, Bikin, Iman, Voroshilov,

509 and Vladivostok. An important line leads from Ulan-Ude to Ulan Bator in the Mongolian People's Republic with a stop en route in Kyakhta. Khabarovsk can be named as the special center of air transport. From here the air lines go the north. Regular flights are made to Komsomol'sk, Okha and Aleksandrovsk on Sakhalin, then to Ayan, Okhotsk, Petropavlovsk on Kamchatka, and Anadyr' in the extreme northeast. However, the air transportation also performs purely economic tasks. Thus regular flights are made to the gold fields on the upper Barguzin from Ulan-Ude and to the gold regions on the upper Vitim (Tsipikan) from Chita. Also the polar stations along the coast of the Arctic Ocean are supplied by airway. Beyond the regular lines, occasional flights are also made into the remotest regions. In the summer seaplanes are also used; they fly along the great rivers and can go down on the water at all times and everywhere. In winter, on the other hand, airplanes are used which are equipped with gliders /Gleitscheinen/ which enable the planes to land on slick ice and snow surfaces.

/195/ Tranportation of the North

489 The vastness and the slight population of the entire vast north has made it unnecessary to build routes apart from some few overland roads; and accordingly the entire area can be designated as without routes of any kind. Traffic here is accomplished within moderate limits on natural routes through the forests, on narrow paths through the mountains, and in the open tundra areas via the open plains. As a consequence of the great dampness and the heavy formation of swamps, all forms of land transportation cease in summer in many places, and transportation is then limited to boat traffic on the rivers, which during this season offer the best means of transportation. Many localities are often cut off from the outside world for weeks and months. The transportation of goods is completed primarily in the winter, which constitutes the main traffic period for the entire north. These pathless regions begin already in the northern part of the Amur region, and in the Amgun area even reach the Amur itself. Characteristic [493] for these regions is the sled as the main means of transportation, while the characteristic draught animal is the reindeer or dog, or less commonly the horse. These are means of transportation such as have been developed by the native Tungus and Paleoasiatics; and they have to be used also by the Russians for trips and for the transport of goods, because in the present state of development there are just no other possibilities for transportation.

possibilities for transportation.

The sleds are very lightly built and represent true works of art. 493
The extraordinary performances in building such a "narta," as the sleds are named, consists in the fact that the only tool employed is a knife. No nails or glue are used; only simply cut wooden pegs and straps. There results from this an extraordinary elasticity, which also comes from the birch wood which is the primary material used. The type of narta for dogs is usually 2.70 to 3.00 meters long, 50 centimeters high, and 60 centimeters wide. In the runners, which are approximately 10 centimeters wide and 3 to 4 centimeters thick, there are on either side supports, which have cross-connections. On these connections thin boards are fastened lengthwise, and these boards form the floor of the narta. The front and back ends of the runners are bent up high and attached to a horizontal wooden arc, which has the same height as the boards and which forms the outer edge of the narta. The pulling straps are fastened to the front arc. The traveler either sits sideward on the narta with his legs hanging down or lies down on the sled with his legs stretched out behind him. The narta 492
has 11 to 15 dogs put to it, the number of dogs always being uneven. At the head runs the lead dog, who understands the orders of his master, who is clever, who is distinguished by his good orientation. Rescue from some danger in the vast widerness is often due to the lead dog. The other dogs are tied in pairs to the drag line. The dog wears the pulling strap around his neck, but the strap is so arranged that the dog pulls with his chest. In order to prevent wear by rubbing /196/ the straps are wrapped in fur. So that the individual dog can't break loose sideways, each dog wears in addition a neck band which is likewise fastened to the pulling line with a light chain or a strap. A freight narta can be loaded with 2.0 to 4.5 centners. Lighter narta, which serve passenger traffic more, can as a rule not be loaded with more than 2.5 centners including the weight of the traveler. A narta with a load generally covers 4 to 6 kilometers in an hour, but with only one traveler and a team of 13 to 15 good dogs a narta can cover 10 to 12 kilometers, indeed even up to 16 kilometers in an hour. With one and the same team of dogs one can with good care cover a stretch of 500 kilometers without needing to take very long rests. Castrated dogs are usually used as draft dogs; female dogs are used only rarely since they often get sick and have only slight endurance.

Of greatest importance for the carrying out of a trip is the sled leader, the "kayur." He is no driver in the usual sense. Either he stands with one leg on the sled runner and lets the other leg dangle in

492 in the air, or he constantly runs along beside the dogs, getting their harnesses in order or helping the dogs pull the narta up a hill. He is almost constantly in conversation with the dogs, whom he spurs on with flattery or also scolding words. The dogs love to be talked to. The kayur knows his dogs and his dogs know him. It is very difficult to travel with strange dogs.

The dogs are guided only by the words of the leader or with the help of the "ostol," a 1 to 1.5 meter long birch stick. Very very seldom is this stick used to spur the dogs on. Sometimes the ostol is used to prop the narta, sometimes it is used to stop the sled in order to avoid a collision with a tree. In the forest the kayur must always be on the lookout that a bird or a wild animal does not jump out from between the trees and frighten his dogs. Then the dogs rush away, and the traveler, if he falls off the sled, is lost in the vast wilderness.

A light type of narta is used as a reindeer sled in the entire coastal area of the east. These sleds differ substantially from the clumsy, heavy sleds of the Samoyed. In type of construction and in [493] lightness this reindeer sled is like the dog sled, only the reindeer sled is higher, wider, and shorter. Usually only two reindeer are used on light trips, and in such a case the pulling line is not fastened to the front bow of the sled but rather is only drawn through it so that the two animals are forced to use the same strength in pulling. A narta with two reindeer put to it carry a load of 4 to 5 centners. For the transportation of yurts or heavy burdens large nartas are used, which are pulled by 3 or 4 or even more animals and which can carry loads of 8 to 10 centners.

Under the same conditions the reindeer narta is as a rule preferred for longer trips, since the animals provide for themselves en route, while /197/ food for the dogs, fish as a rule, has to be taken along. Travel is very difficult with loose, deep snow since the animals sink into the snow and cannot go forward. In such cases the kayur goes ahead of the sled on broad Koryak snowshoes in order to tread down a path for the draft animals--dogs and reindeers.

A trip with a narta does not belong among the pleasures of life, as a trip by sled is depicted by the European. The trip is full of anguish when the land is uneven or when the wind has covered the plains with hard snowbanks. The narta is often thrown over, the kayur who wants to help falls down, the dogs whimper and howl because they are caught under the narta, the waving back and forth and the hard bumps cause headaches and nausea.

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In mountain areas where only narrow, often steep paths are available, the beast of burden shows his real value. Only the horse is used as such; the reindeer is used very rarely since it has a backbone that is too weak and is not suitable as a draft animal. The reindeer is very rarely used as a riding animal and then only by the Lamut. The saddle is up in front on the reindeer; thus the rider sits directly over the reindeer's front legs.

Recently the horse has been adopted more and more on Kamchatka and also on the coast of the Sea of Okhotsk, and here and there it has already displaced the dog as the draft animal.

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In summer, traffic in the entire north goes into the land from the coastal localities to which the coastal steamers make runs. The distances, therefore, are not so great, and the rivers make possible a further penetration into the interior.

The Kolyma has acquired a special significance in this connection; it is regularly traveled every summer to supply the gold districts. To be sure, the period when the river is navigable lasts only approximately three months. If, however, the entire coastal strip is covered with ice in winter and entire sections of the sea become ice wastelands, then the old means of transportation--dog sleds and reindeer sleds--still come into their right even today.

Sea Transportation and Ice Conditions along the Coast

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The extensive coasts of the Far Eastern regions are above all designed for sea transportation. This applies primarily to the entire coast north of the mouth of the Amur; the localities along this coast have only a very slight economic hinterland behind them or no such hinterland at all, and, therefore, in their development, indeed in part even in their obtaining supplies, these localities have been dependent on the sea route alone, which for most of them signifies the sole connection with the outside world. But the coastal localities of the Sikhote-Alin', too, have no built-up and easily passable land routes over the mountains to the thickly populated Ussuri-Khanka depression, and, accordingly, an exchange of goods for these localities is likewise only possible by the sea route. With /198/ this striking importance of sea transportation it is understandable that the Soviet Union has striven with all its powers to build up and to develop sea transportation. Unfortunately, as has already been brought out in the discussion of the climatic conditions, nature is not favorable to sea transportation on

505 the entire Far Eastern coast. Nature has through winter ice barriers drawn an often very narrow limitation, in terms of time, on the usefulness of the sea route.

132 On the Sea of Japan freezing of the coast and freezing over of the rivers occurs relatively early along the Soviet Russian coast in the entire area north of 42° latitude as a consequence of the cold winds coming from the continent. The harbor of Vladivostok, however, [504] can be used all through the year. To be sure, the "Golden Horn" freezes over in the second half of December, and the ice covering remains until into the second half of March, but the ice is not so thick that a path cannot always be made by ice-breakers for the incoming and outgoing ships. Even here, however, the undisturbed ice can attain a thickness of up to one meter.

Far more unfavorable are the conditions in the Gulf of Tatar, which separates Sakhalin from the mainland. In the southern part the ice distribution and with it the accessibility of the coast depends on the prevailing winds. With persistent northwest winds the ice piles up on the western coast of Sakhalin; with east and southeast winds, on the other hand, the ice is driven toward the mainland coast. North of 51° latitude the ice covering is thicker; there the gulf is covered by a closed ice covering throughout approximately 125 days a year, and passage is free only at the beginning of May. The individual bays, however, on which the coastal towns lie, are closed over earlier and also remain shut off by ice longer. The Amur at Nikolayevsk has an ice covering for a mean of 184 days. The table appended to this chapter gives details on this.[1]

As a consequence of the northwest winds which set in already in September and especially in October, the Sea of Okhotsk comes under continental influence early. At the end of October and in the first half of November ice formation begins along the northern coast. The thickness of the ice grows until into March, persists through April, and only in May does the disintegration of the ice begin. Almost at the same time the breaking up of the ice also begins, at first at the mouths of the rivers and then along the coast. This type of breaking up fosters the destruction of the solid coastal ice, which is then further broken up by the wind and battered by the waves. As a consequence of the current the ice is driven toward the west and southwest and collects in Udskaya Bay and at the Shantar Islands in the southwestern corner of the Sea of Okhotsk. As a consequence of this the ice persists the longest in these places. Even in July large ice fields can be

[1] [cf. pp. 231-232 -- Analyst]

encountered there. Thus the steamer 'Tula' ran into extensive drift-ice fields between the mouth of the Amur and the Ayan between the the 20th and 28th of July, 1916. It /199/ /Sketch Map of the Highest Level of Ice Distribution/could neither get into Uiskaya Bay nor sail toward Nikolayevsk on the Amur and had to return to Vladivostok via La Perouse Strait with its load without having reached its goal. Equally noteworthy is the fact that on January 20, 1940, the merchant steamer 'Igarka' was able to reach Ayan without impediment and without the aid of icebreakers. It was the first attempt at a winter trip in this territory. On the return journey, however, the ship became locked in heavy ice and required the icebreaker 'Krassin' to free it. Apart from the southwest corner and the northwest bays /200/ the Sea of Okhotsk is generally ice-free in June. The bays on the north coast are already completely blocked by solid ice by the end of November. This solid ice covering then grows all along the coast farther into the sea. Penzhina Bay provides one exception to this rule. The formation of a solid ice covering is prevented at Penzhina Bay by a tidal current with a tidal hub /Tidenhub/ of up to 12 meters. Heavy pack ice masses thus collide. The ice lasts both here and in the neighboring Gizhiga Bay until the middle of July.

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The ice conditions appear to be most favorable on the western coast of Kamchatka. The northeast and east winds break up the ice near the coast and drive it into the sea. Even in the middle of winter a strip of ocean is kept open in the vicinity of the coast, while at a greater distance from the shore heavy masses of ice remain fixed throughout the entire winter.

The passages between and the coasts of the Kurils, which lie between Kamchatka and the Japanese Hokkaido, are stopped up with drift ice from January to the end of March when the winds are from the west and northwest, but otherwise they are passable: the farther to the south the easier the passage. Often drift ice between the southern Kurils is driven out far into the Pacific, where drift ice can be encountered in May and even into June if the winter has been especially harsh.

The eastern coast of Kamchatka, in so far as it belongs to the Pacific Ocean, has no ice formations which interrupt ship traffic. To be sure there is drift ice everywhere, but this collects into larger masses of pack ice only on the sand banks in the vicintiy of the coast. Solid ice forms in the bays--for example, in Avacha Bay, on which Petropavlovsk, the capital of Kamchatka, lies. However, the ice

Sketch Map of the Highest Level of Ice Distribution:

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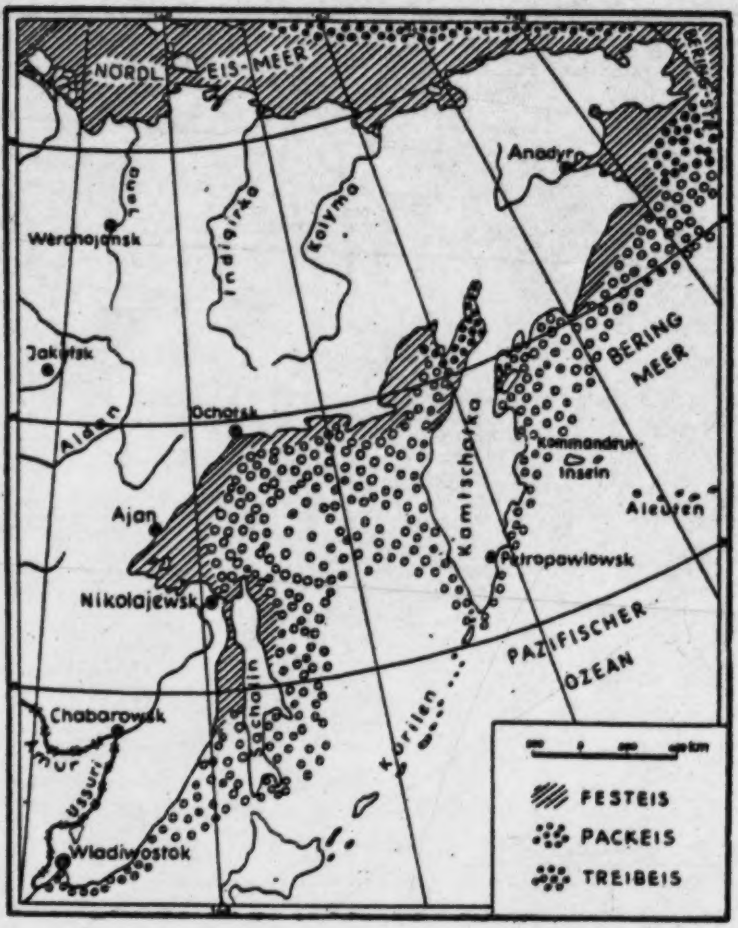

Solid ice
Pack ice
Drift ice

132 covering, which lasts here from the middle of December to the beginning of April is not thick, and it can be kept open at all times with the help of icebreakers.

In the Bering Sea the ice difficulties along the coast increase toward the north. Heavier solid ice forms in the bays and on the coast, the drift ice lasts longer and increases in thickness and strength. Litke Strait between Karaginskiy Island and Kamchatka is stopped up with drift ice from the end of December to the middle of May, but between the mainland and the island it freezes over only very rarely. This was the case in 1918-19, and, accordingly, the Koryak population of the island could reach the mainland with their herds via the ice covering at the beginning of March, when the shortage of fodder for their reindeer was too great. Korff Bay, on which coal is mined, is closed by ice from the beginning of December to the end of April. The coast between Olyutorskoye Bay and the Anadyr' Gulf as a rule has a belt of solid ice and pack ice stretching out in front of it from November to May. The Anadyr' Gulf itself freezes over in the second half of November and remains closed until the beginning of May. Drift ice lasts still longer. In Provideniya Bay the first ice appears already /201/ in September, but only at the beginning of November does the solid ice covering close up. In the course of the winter this ice covering reaches a thickness of 3 to 4 meters.

In the open part of the Bering Sea in the north light drift ice appears already in mid-October. According to the reports of American whalers, a solid ice covering forms around St. Lawrence Island at the end of December. Drift ice has been determined here until the end of July. In the southern part of the Bering Sea there is seldom impeding ice. In the sphere of the Commander Islands the sea as a rule does not freeze over. In the northern part of Bering Sea the movement of ships is generally possible from the end of May to the middle of October; in Bering Strait, however, it is possible as a rule only from the middle of June to the beginning of October. In the beginning of November the sea in the area of the Bering Strait is covered with heavy pack ice. According to some reports, the sea between Cape Dezhnev, the Diomede Island and Cape Prince of Wales is so extensivley frozen over from February to March that traffic over the ice is possible between the Chukchi Peninsula and Alaska.

Ice conditions in the northern part of the east Siberian coast are most favorable for shipping in August and September. The western part of the Chukchi Sea and the eastern part of the East Siberian

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Sea--i.e., the regions on both sides of the Long Strait--generally offer the greatest difficulties for shipping. Ice formation sets in the end of September to the beginning of October, beginning first in the areas near the coast, where the salt content of the water is lowered by the rivers emptying into the ocean. From the coast the ice then grows out into the sea, forming an uninterrupted ice covering by the end of November to the beginning of December. This solid ice stretches in winter to approximately the line where the ocean becomes 25 meters deep, and, accordingly, the width of the ice fluctuates considerably depending on the depth conditions. At the new Siberian Islands the ice extends from the coast out into the sea beyond these islands and, being 350 kilometers and more wide, it attains here the greatest width in the Arctic. Approximately the beginning of April the first signs of the breaking up of the ice appear. In May and June there is an active formation of splits. As the season progresses the great ice fields become smaller and smaller and finally become ice floes, between which a ship can go. The farther to the east one goes the later the breaking up of the ice begins; in the Chukchi Sea it usually does not begin until July. The deeper parts of the North Polar Basin are covered with Arctic pack ice, which toward the end of winter has a thickness of 3 to 3.5 meters. In the course of the summer this sinks to 2 to 2.5 meters. Through tidal currents, surface currents, and the effects of the wind, strains and pressings occur, which lead to a pressing together and with this to the formation of pack ice, whose height in places can reach 10 meters and more. Since the water movement on the shelf as a rule is toward the east, while over the deeper water the movement is directed toward the west, holes in the ice often appear in the border zones, forming here large splits, which at times can be traveled through. These split zones, which are called "polynia" (= ice-free places) by the Russians, /202/ extend from west to east through the entire Arctic part of the sea. In the Chukchi Sea it often appears right on the coast. With a north wind these ice-free areas disappear completely. The Arctic pack ice then grows together with the solid ice of the shelf. If the wind changes suddenly, then the pack ice is driven toward the north, and the polynia arrises anew.

As the attached table shows,[1] ice conditions in the entire coastal area of the Soviet Far East vary greatly from year to year and even change a great deal within a single year. A well expanded network of meteorological observation stations, along with an ice information

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[1] [Cf. cat. 116, pp. 231-232 -- Analyst]

132 service and help from ice-breakers, could very much expand the use-
654 fulness of the parts of the sea threatened by ice. And here the Soviet government has accomplished excellent work worthy of recognition.

505 The center of all the coastal traffic is Vladivostok, from which all lines start. Sea traffic is most active in the most southerly part of the coast as far as Nikolayevsk on the Amur. However, the more northerly localities are also visited regularly several times a year. The longest line leads to the mouth of the Kolyma, whence a trip by one or even several steamers at the same time is undertaken every year. Of the 2,021,000 tons of goods turned over in the harbor of Vladivostok (1935), 864,000 tons came from coastal traffic.

The following figures on distances may explain transportation conditions:

Coastal Steamer Lines

Distances from Vladivostok

Sovyetskaya Gavan'	1,075 kilometers
Aleksandrovsk on Sakhalin	1,335 kilometers
Nikolayevsk on the Amur	1,575 kilometers
Okhotsk	3,210 kilometers
Petropavlovsk	2,785 kilometers
Anadyr'	4,640 kilometers
Mouth of the Kolyma	5,200 kilometers

(Next table on following pages)

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/205/ B. SPECIAL SECTION

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/207/ THE PROVINCES

General Division

133 As the general survey has already shown, the geographical conditions of even a large division of the entire region fall into 1

1 [Cf. cat. 133, p. 232 for continuation — Analyst]

/203/ Dates on the Freezing Over and the Opening Up of the Sea on the coasts

	Final Establishment of the Ice		Final Becoming free of Ice		Mean number of Days with Ice*
	Earliest	Latest	Earliest	Latest	
I. Sea of Japan and the Gulf of Tatar Bay of Peter the Great					
At Cape Gamova	19 Jan.	18 Feb.	3 Mar.	29 Mar.	72
At Askol'd Island	19Dec.	3 Feb.	26 Feb.	24 Mar.	59
Golden Horn	10 Dec.	30 Dec.	15 Mar.	24 Mar.	90
Amur Bay	18 Nov.	30 Dec.	11 Apr.	28 Apr.	130
Ussuri Bay	27 Dec.	15 Jan.	14 Mar.	30 Apr.	85
Sea at Cape Povorotnyy	1 Feb.	4 Feb.	26 Feb.	14 Mar.	--
Ol'ga Bay	17 Dec.	4 Jan.	27 Mar.	12 Apr.	100
De Castri Bay	16 Nov.	15 Dec.	25 Apr.	21 May	152
Gulf at Cape Pronge	24 Oct.	22 Nov.	30 Apr.	29 May	185
Amur at Nikolayevsk	30 Oct.	27 Nov.	10 May	25 May	184
II. Sea of Okhotsk					
St. Nikolaus Bay	5 Nov.	17 Dec.	27 May	25 July	190
Shantar Islands	10 Nov.	81 Dec. /sic/	25 May	20 July	174
Udskaya Bay	20 Nov.	18 Dec.	27 Apr.	10 July	178
Sea at Ayan	25 Nov.	22 Jan.	20 May	26 Feb. /sic/	164
Sea at Okhotsk	27 Nov.	26 Jan.	19 Mar.	18 May	117
Yamskaya Bay	12 Nov.	18 Dec.	21 May	28 June	185
Gizhiga Bay	27 Nov.	30 Dec.	25 May	2 June	136
Penzhina Bay	9 Nov.	12 Dec.	5 May	2 July	188
III. Bering Sea					
Avacha Bay	20 Nov.	7 Jan.	10 Mar.	9 May	115
Side bay of Avacha Bay	19 Nov.	16 Dec.	11 May	5 June	170
Ukinskaya Bay	14 Nov.	8 Jan.	15 Mar.	22 June	128
Korff Bay	15 Nov.	30 Dec.	18 Apr.	16 June	160
Olyutorskiy Bay	25 Nov.	30 Dec.	10 Apr.	10 June	149
Dezhnev Bay	8 Nov.	25 Dec.	29 Apr.	15 June	170
Anadyr' Gulf	12 Nov.	5 Dec.	29 Apr.	9 July	190
Holy Cross Bay	30 Oct.	18 Dec.	25 Apr.	18 July	195
Provideniya Bay and Emma Harbor	24 Oct.	26 Nov.	2 June	16 July	220

(table continued on following page)

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	Final Establishment of the Ice		Final Becoming free of Ice		Mean number of Days with Ice*
	Earliest	Latest	Earliest	Latest	
Cape Chaplin	27 Oct.	8 Nov.	20 June	15 July	240
Sea south of Markovskaya Bay	25 Oct.	28 Nov.	12 June	27 July	230

* The mean number of days with ice includes drift ice and established ice.

133 individual natural areas. In the following consideration these natural areas are again divided into individual provinces, with the relief serving as the principal basis for the division. Given the size of these individual provinces it is obvious that in addition to many common traits in a given province there are also differences in the individual parts of the province. Accordingly, a further subdivision could be carried out without difficulty. However, this has intentionally been forgone for reasons of clarity.

The varying treatment of the individual provinces and their parts is a consequence of the uneven knowledge of many parts of the land. In going through the Russian literature, one can again and again determine that in addition to well-known regions there still exist extensive areas which require exact investigation. In contrast to the individual research prevailing in the Czarist period, Soviet Russian science has gone over more to a systematic penetration. However, with the great size of the entire land, much still remains to be done.

Transbaykal is divided by the Yablonovyy Ridge into two provinces: according to Obruchev, these can be designated as the western or Baykal province and the eastern or Nerchinsk Daur province. Toward the north the individual mountain ridges come together to form extensive plateau areas. To this category belongs the Vitim Plateau, which is grouped as a unit with the mountain forest areas adjoining it to the north and equipped with an equally raw climate. The mountain country between Vitim and Olekma and the Olekminsk Stanovik contitute the transitional area to the actual Amur country. Here the Zeya and Bureya mountain country marks the border of the economically important Zeya-Bureya plain. Again accompanying the lower Amur is a depression, which flows together with the Amgun area. The Sikhote-Alin' and the Ussuri-Khanka depression constitute individual

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provinces of the Ussuri country. The division of the remaining regions follows of itself: the island of Sakhalin, the region of the Amgun and Uda, the Okhotsk coastal country, the provinces of the extreme northeast and of Kamchatka Peninsula (see map). A short survey of Lake Baykal precedes the description of the provinces.

/208/ Lake Baykal

Adjoining Transbaykal on the west is Lake Baykal, which belongs among the most interesting lakes in the world. It has a water surface of about 23,000 square kilometers, a length of 636 kilometers, and its greatest width is 79 kilometers. The smallest width, between the mouth of the Buguldeyka and the delta of the Selenga, is only 25 kilometers. The lake lies on the mean at 453 meters above sea level, but the lake floor sinks down 1,741 meters, thus reaching 1,288 meters below sea level and so making Baykal the lowest internal lake in the world. The mountains right on the shore rise more than 2,000 meters, and, as a result, there are height differences of more than 3,700 meters within a very small area. From this the tectonic formation of the lake can also be recognized. This occurred through the inroads of four grabens shoved approximately toward one another; of these grabens, the most southwesterly one runs in the Sayan direction and the others, on the other hand, run in the Baykal direction. This explains the long swung, arc-shaped form of the lake basin. In terms of time the formation of Lake Baykal was related to the graben breaks of Transbaykal and must have occurred after the middle Tertiary. The lake acquired its present form and shape in the time between Pliocene and Quarternary.

The temperature of the water is extraordinarily cool, and even in August, which brings relatively the highest temperatures, it never exceeds 9° to 10°. In the vicinity of the shore the surface water is somewhat warmer, and only in some bays, which are favorably located, does the water temperature rise to 15° to 19° at the highest. From a depth of 255 meters on the water temperature remains approximately constant at 3.5°. At a depth of 900 meters a temperature of 3.4° has been recorded, and at 1,600 meters one of 3° has been recorded. The frequent, very violent storms are primarily responsible for the coolness of the surface water. These storms again and again stir up the water, but, on the other hand, they also see to it that Lake Baykal freezes over only at the beginning of January. As a mean established

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133 over long years, Lake Baykal remains for 116 days under a solid ice
132 covering, which can attain a thickness of up to 1.25 meters.

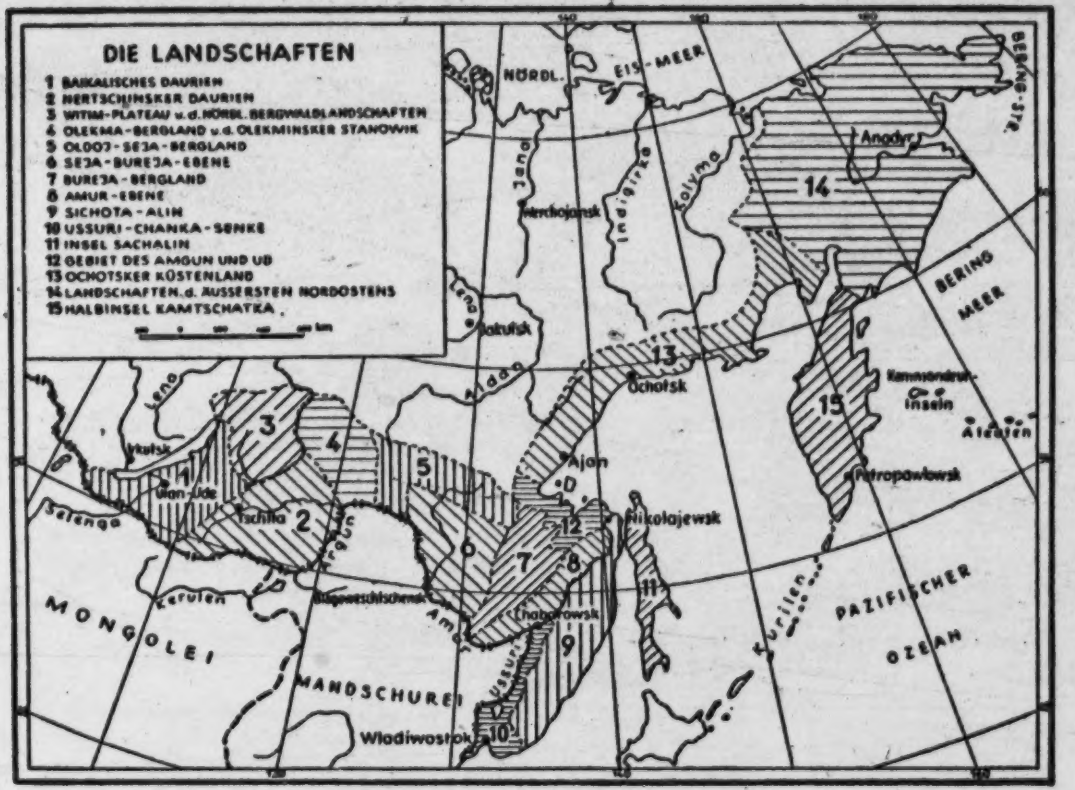
The fauna of the lake[1] is peculiar, representing a true collection
136 of endemic forms. Of the 1,000 types determined so far, around 75 percent are endemic. Here in the middle of the continent there is a type of seal called "nerpa" by the Russians (Phoca sibirica), which is related both to the same type found in the Arctic Ocean (Phoca hispida) and also to one found in the Caspian (Phoca caspia). The next fauna worthy of mention is the small, viviparous spider fish (Callionymus baicalensis), whose family (Comephoridae) is peculiar only to Lake Baykal. Exceedingly large is the number of mollusks. To date 85 types have been determined, of which two endemic families of brachiopods (Benedictiidae and Baicaliidae) are typical fresh water representatives. The great age of the Baykal fauna, which must have followed an isolated development, indicates the /209/ /Sketch Map of the Provinces:// /210/ appearance of the Baicalia mollusks already in the fresh water deposits of the lower Cretaceous in Transbaykal.

505 As a result of its depth and its favorable natural landing places, Lake Baykal offers the best opportunities for water transportation. A steamer line which is traveled regularly, connects all the larger settlements with one another and also serves the transportation of goods. Wood constitutes the bulk (40 percent) of the goods transported, in second place are stones and building material (30 percent), then follow fish, salt, flour, and others. The wood as a rule is floated down the rivers to the lake and then is transported by steamer tugs to the mouth of the Angara, where it is transferred to the railroad in Baykal station, which is equipped with mechanized loading equipment, or a small part of it is floated directly to Irkutsk. Wood is delivered on the Transbaykal side primarily by the river areas of the Barguzin and the Upper Angara.

228 Also of economic significance is fishing, which is pursued both in the open sea and also in the bays. The principal role in this fishing is played by the catching of a type salmon, the omul (Coregonus omul Pall. or Coregonus migratorius), and of fish related to the omul; these fish constitute 58 percent to the catch. In second place are types of carp (22 percent), which are caught primarily in the lagoons and in neighboring lakes. Also the catch of seals, already mentioned, is not insignificant. In 1948 there were 1,380 animals caught. Fishing is pursued both by the state and also by fishing kolkhoz. The latter caught 68 percent of the total catch in 1949, while the state was

[1] [i.e. Lake Baykal -- Analyst]

Sketch Map of the Provinces: (Captions to map on following page)



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(Captions to Map on page 235)

1. Baykal Daur
2. Nerchinsk Daur
3. Vitim Plateau and the northern mountain forest provinces
4. Olekma mountain country and the Olekminsk Stanovik
5. Oldoy-Zeya mountain country
6. Zeya-Bureya plain
7. Bureya mountain country
8. Amur plain
9. Sikhote-Alin'
10. Ussuri-Khanka depression
11. Sakhalin Island
12. Area of the Amgun and the Uda
13. Okhotsk coastal area
14. Provinces of the extreme northeast
15. Kamchatka Peninsula

responsible for 32 percent. On the Transbaykal side, in the area of 228
the Buryat-Mongol ASSR, approximately 30,000 double centner of
fish are caught annually; in good years even more than 35,000 double
centners of fish are caught. Thus a series of fishing settlements animate
the Transbaykal shore. The most important are Nizhne-Angarsk, 361
which lies on the extreme north east tip, Ust'-Barguzin at the mouth [255]
of the river of the same name, where there is also a fish canning
factory, and, south of this, Goryachinsk, which in addition to fishing [312]
is acquiring a growing importance as a health resort because of its hot
springs.

Baykal Daur

Baykal Daur begins in the west with the Khamar-Daban. This 133
mighty mountain massif, projecting up to 2,217 meters, follows the
southern shore of Lake Baykal. Along this shore, runs the railroad
which encircles Lake Baykal and which is forced to follow all its
windings. This mountain massif is little divided and has predominantly
soft forms with dome-like heights which are seldom rocky. These
heights, as Prassolov describes them (160), give the impression of being

160. Prassolov, L.I. Iuzhnoe Zabaykaliye /Southern

133 Transbaykal/. Material for Doing Research on the Ground in Asiatic Russia. Moscow, 1927.

flat steps, heaped up on one another; they appear easy to climb from the south but break off sharply toward Baykal. However, sharp ridges and pointed, pyramid-shaped mountains appear in the western part, especially in the area of the upper course of the Temnik and the Snezhnaya. Here also lie /211/ /The page itself is blank. Attached to it, however, is a sketch map of Transbaykal: Orographic Scheme/ /212/ the greatest projections of an Alpine type, rich Karbildungen /Karformations/, and other traces of a former glaciation. The bulk of the mountain range has a width of 40 to 70 kilometers and heights of only between 1,200 and 1,600 meters. But the saddles and passes are only 200 meters lower. Outcroppings of basic stone, principally gneiss and granite, occur mostly only on the lower parts of the slopes. The southern and eastern parts present a motley geological picture. Represented here primarily are crystalline limestone and other matamorphic rock, then porphyrite and basalt. In the Khamar-Laban radioactive materials have been determined in addition to other minerals. The bulk of the mountain range is covered [137] with thick forests. Only a few bare gol'tsy project beyond these forests in the eastern part, and only higher Alpine forms project beyond the tree line in the western part. The composition of the forests is strongly influenced by climatic conditions. On the slopes inclined toward Baykal and exposed to the damp and cool northwest winds there is typical Siberian taiga with larches, Siberian stone birch, pines, and others. On the dry southeastern slopes, on the contrary, pines predominate almost exclusively. The flat ridges are covered by an underwood and bush formation.

The Khamar-Daban is separated from the Borgoyskiy Mountain Range on the south by the valley of the Temnik, which flows down to the Selenga. The Borgoyskiy Mountain Range runs parallel to the Khamar-Daban and generally has the same character except for the fact that toward the south it is more heavily broken up /zergliedert/ and with wide, open valleys declines to the extensive graben depression of the Dzhida. In contrast to the Khamar-Daban and the Borgoyskiy Mountains, which are difficult to traverse and not very attractive because of their forest wilderness, the Dzhida valley is relatively well opened up. This goes back to the valley's valuable natural resources. [138] In the area around the upper course of the river there is, in addition to coal, rich supplies of wolfram and especially of molybdenum. These deposits can be reckoned among the richest in the Soviet Union. [cf. pp. 238-239--Analyst]

Section A.

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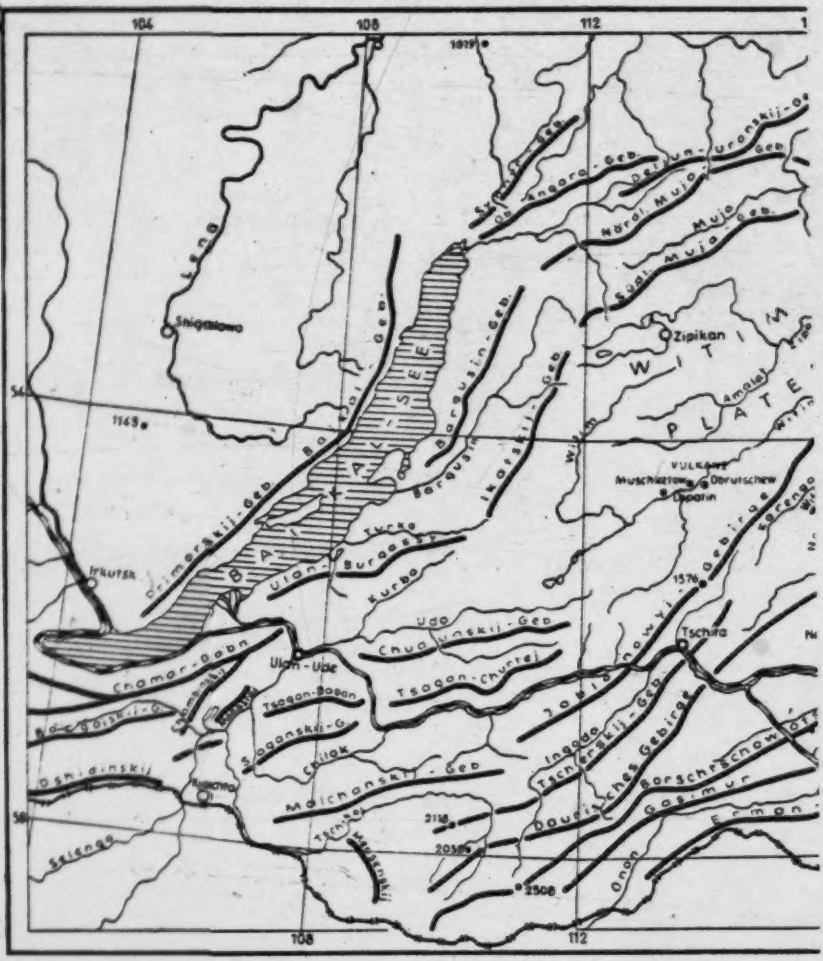

Sketch Map of Transbaykal: Orographic Scheme.

Section B.

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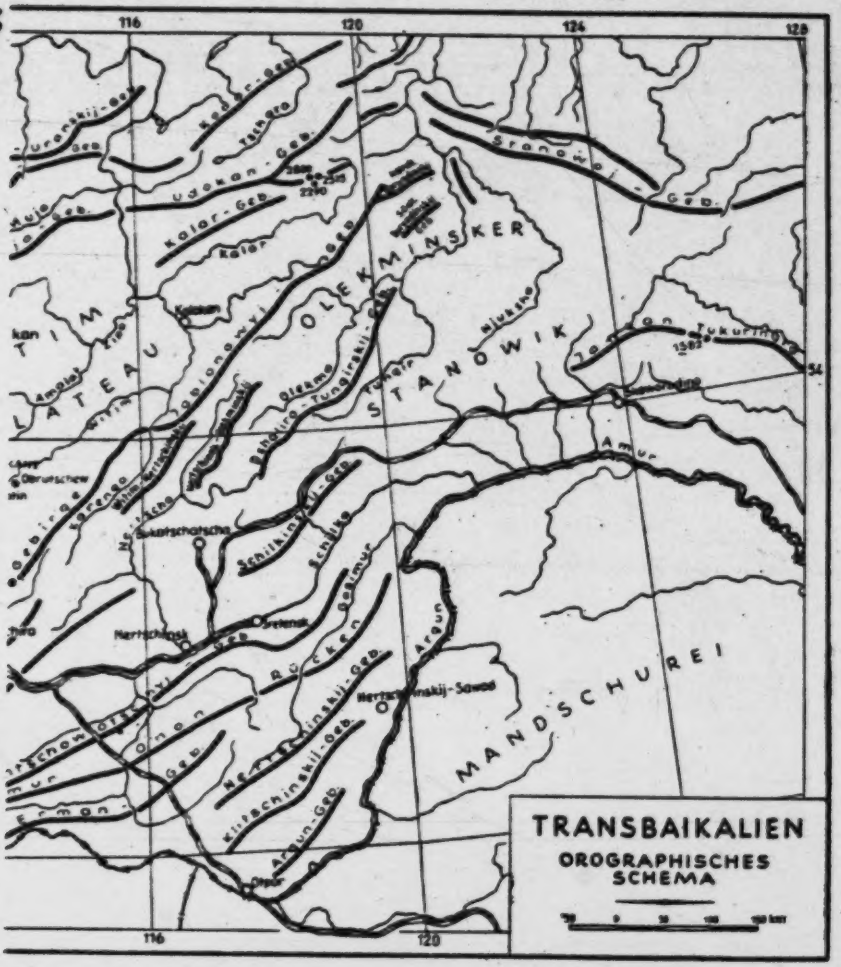

Sketch Map of Transbaykal: Orographic Scheme.

deposits can be reckoned among the richest in the Soviet Union. Thus, here in the middle of a remote wasteland a small industrial area has come into being, whose center is the town of Gorodok and which already has more than 10,000 inhabitants. The center is a large wolfram-molybdenum works with modern mines, ore dressing installations, conveying and suspension railroads. The valley slopes here are still grown over by thick taiga. However, toward the east the forest withdraws from the lower slopes, which appear far from one another and form an extensive grass steppe area, which merges with the Selenga steppe without interruption. The valley of the Dzhida is bordered on the south by the Dzhidinskiy Mountain Range named after the river. The Mongolian border runs along the watershed of this mountain range.

The Khamar-Daban continues toward the east with dimensions which become smaller morphologically and geologically. However, the Selenga, which breaks through the mountain in a narrow valley, is usually considered to be the eastern border of the Khamar-Daban. The Selenga circumscribes the eastern part of the Khamar-Daban and empties into Lake Baykal in a broadly projecting delta.

/213/ /Sketch Map of the Buryat-Mongol ASSR:/

/214/ The Selenga Delta is a heaped up plain /Aufschüttungsebene/, which on the mean lies 7 to 8 meters above the water level of Lake Baykal, to which the delta slopes in terraces. The lower terrace, which already bears sea deposits, is completely flat, while the remaining parts are gently rolling. The northeast, the real present-day delta, is traversed by numerous dead and living arms of the Selenga, while the southwest is flowed through by some tiny little rivers, which come directly from the Khamar-Daban. In terms of its landscape, the delta represents a dry steppe, in whose lower, sunken-in parts swamps are imbedded. The delta is fairly heavily populated by Russians and Buryat, who pursue both fishing and agriculture. Irrigation is used in the agriculture. The center of this area is Kabansk, where the railroad coming from the west touches the Selenga for the first time. The products of the fishing are stored here in modern cold storage installations and made ready to be transported away.[1]

From here the railroad uses the valley of the Selenga and reaches Ulan-Ude, the capital of the Buryat Republic, above the break-through by the Khamar-Daban. The city lies on the right bank of the Selenga at the mouth of the Uda, which is navigable by rafts. In 1926 still a small, dusty steppe town with 29,918 inhabitants, Ulan-Ude by 1939 had become a modern industrial city with 129,419 inhabitants. In

1 A. [i.e. Kabansk -- Analyst]

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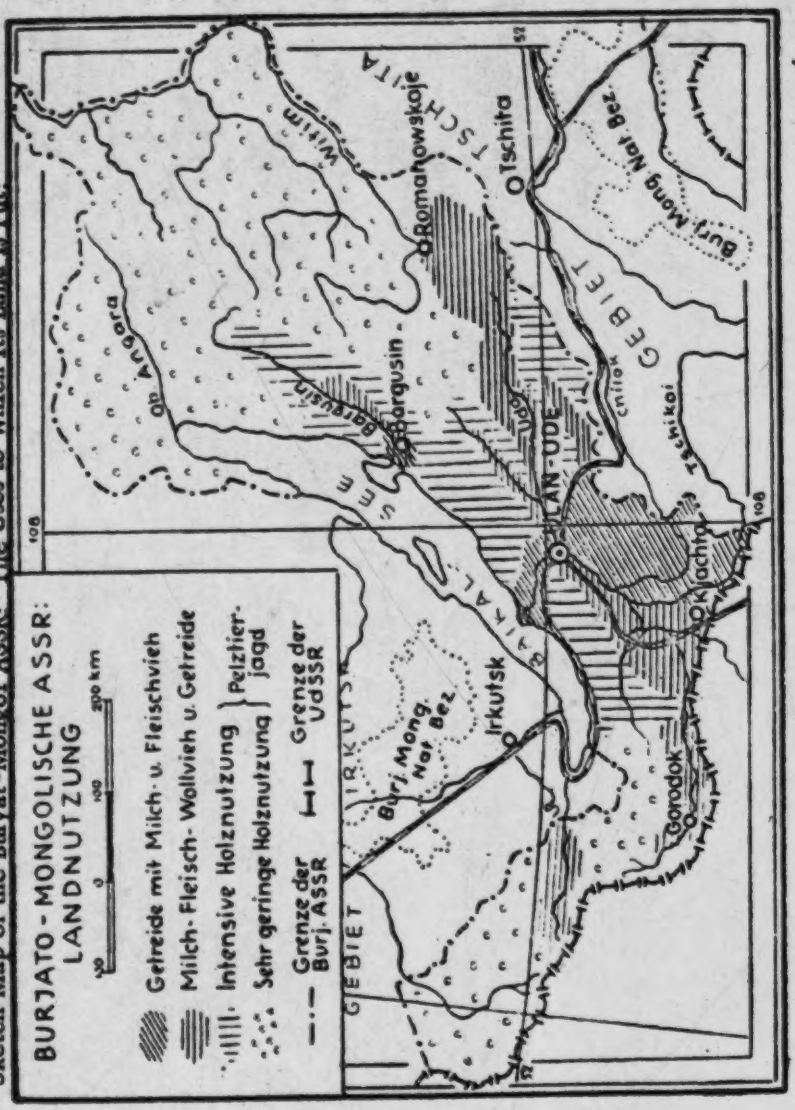
Sketch Map of the Buryat-Mongol ASSR: The Uses to Which Its Land is Put:



Grain with livestock used for milk and meat.

Livestock used for milk, meat, and wool; plus grain.

Intensive exploitation of wood. } Hunting of fur-bearing animals.

Very slight exploitation of wood. }

— · — Border of the Buryat ASSR.

⊢⊢ Border of the USSR.

/213/

361 this city almost 25 percent of the total population of the Buryat-Mongol
[391] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole Far East. Supported by the Buryat's important breeding of livestock,
[253] the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large
[323] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a railroad, Ulan-Ude is favorably located in terms of transportation. At the
[376] same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here
[313] again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ 1/216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over
487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak
491 (Chinese: Maimachen). This overland route, expanded into an auto-
496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this
491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

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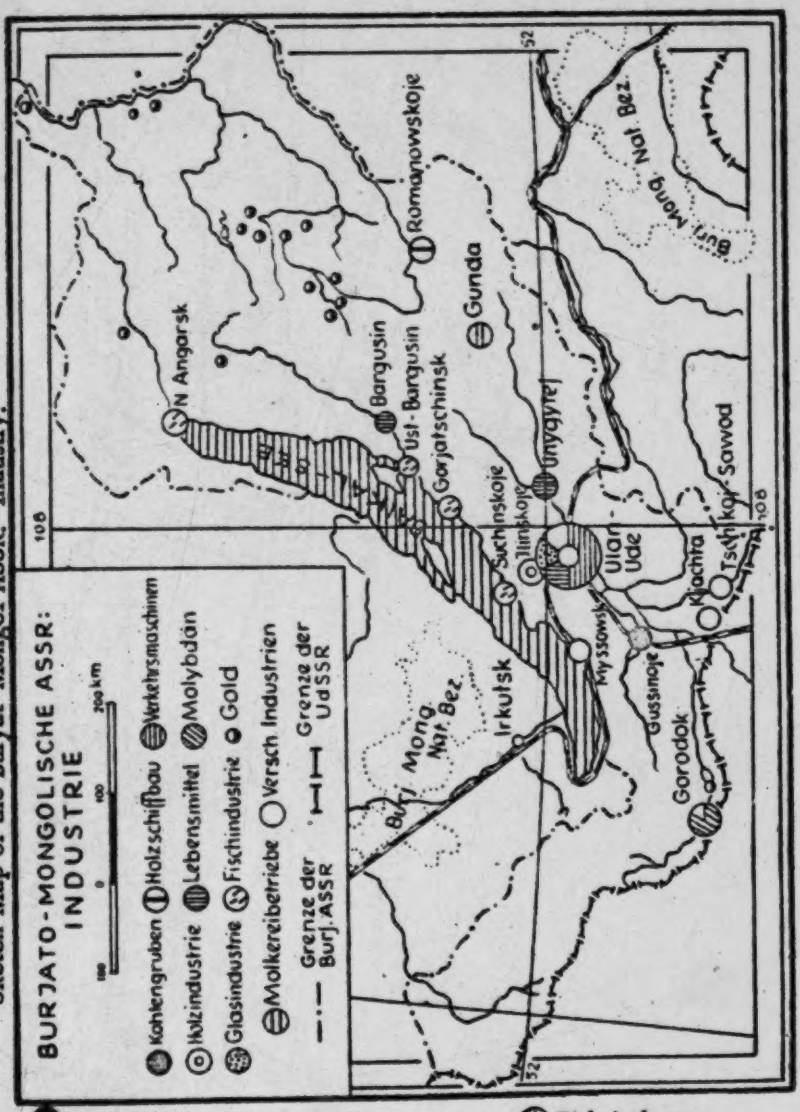
Sketch Map of the Buryat-Mongol ASSR: Industry:



Coal Mines
Construction of wooden ships
Transport machinery
Wood industry
Groceries
Molybdenum
Glass industry
Fish industry
Gold
Dairy plants
Various industries

/215/

Border of the Buryat ASSR
Border of the USSR

000

into the river area of the upper Dzhida.

Gusinoye Lake has the shape of an ellipse, and, having an area 133 of 164.7 square kilometers and a maximum depth of 28 meters, it is the largest lake in Transbaykal. The present lake represents a recent formation. Even in 1720 it did not exist. In 1730 the water began to collect, coming for the most part from the Temnik, which used the Tsagan-Gol as a means of access to the depression. Around 1800 the lake already had approximately its present size. From 1810 the water began to withdraw again: the lake shrank up and numerous flat islands emerged. After 1865 a raising of the water level again set in, which gave the lake its old form again. At present a withdrawal of the water has again been determined. Gusinoye Lake lies in an area of Jurassic sandstones and conglomerates, which are interlarded with layers bearing brown coal. The Gusinoye plain continues toward the northeast and the south and is hemmed in on the west by the Khambinskiy Mountain Range and on the east by the Monostoy Mountain Range. The plain lying south of the lake bears the name of Tamchi. It owes its origin to fluvio-lacustrine deposits. Prassolov regards it as a delta formation of the Temnik. The main stream of the Temnik empties into the Selenga, but sends a branch, the already-mentioned Tsagan-Gol, into the lake, from whence a side river, the Bain-Gol, flows off and again leads to the Temnik. Accordingly Gusinoye Lake can to a certain extent be regarded as the Temnik's water storehouse. A slight fall in the water level is sufficient to keep any water from flowing off from the lake. The lake has fresh water and is very rich in fish.

Within the Gusinoye plain, interestingly enough, salt lakes in basins from which no water flows off and important deposits of chemical salt have formed: thus, for example, the Tsagan-Nor and the Selenginskoye Lake. The latter is 1.5 kilometers long and up to 1.8 meters deep. The hot summer furthers the concentration of salt in these lakes. Often they lie in a long extended depression /217/ within mighty layers of deposited salt with the present day lakes filling only the deepest spots with their waters. From this it can be deduced that the processes still going on in the present must have been more intensive in the past. These water basins never had a connection with the ocean either in the recent past or in the distant past; rather they are interesting examples of lakes with salt of continental origin. One collected salt which became free as a result of chemical disintegration of crystalline rock; others washed continental sediments in lye, sediments which had been enriched with salt in an older geological period. For this reason the

133 peculiarity of these lakes depends on the rock in which they are set. If such lakes lie within eruptive stone, they are as a rule alkali, i.e. they contain and deposit soda (Doroninskoye, Ononskoye, Borgoyskoy
397 Lake). In winter when the climate is dry, soda crystallizes out from the frozen surface of these lakes while strong winds raise up these soda crystals from the ice and deposit them in the immediate and distant environs, thus fostering the mineralization both of the ground water and also of the surface water. In order to extract soda, the soda crystals, which look like a white tinge on the ice, are swept together; thereby 20 to 25 tons of highly concentrated soda lye can be gotten from a hectare of ice surface. In order to foster the crystallization out of the soda, the ice is beaten open so that the lake water comes out under its own pressure through the openings and floods over the surface of the ice. If the lakes lie within Jurassic sediments, then sulphate forms as a rule, especially mirabilite. Deposited under the floor of Selenginskoye Lake is a layer, several meters thick, of sulphate of soda, whose supply is in millions of tons. Alginskoye Lake also belongs in this group. The railroad from Ulan-Ude to Naushki is supposed to lead to the opening up of the important salt deposits in the area of the Gusinoye Lake; the brown coal deposited in the same area is supposed to serve as a basis for this. A large sulphate plant is already in production. At the
361 Gusinoye Lake station a city with more than 10,000 inhabitants has grown from an unimportant village. Coal mines from here supply the railroad. In addition sawmills, brick yards, great dairies, and a fish-canning factory have come into being there. In the fish-canning factory the catch from Gusinoye Lake is processed.

133 The steppe regions which appear in southern Transbaykal vary
137 greatly in their economic importance. In the most southerly areas the artemisian steppe extends over a very wide area: it extends not only over the valley areas but also over the mountain slopes and mountains of the mountain ranges, which here are mostly low. In its driest parts the ground is often covered only 40 percent to 50 percent with plant growth, and the height of the grasses scarcely reaches 15 to 20 centimeters. These are poor meadows. Toward the north, through the thickening /218/ of the covering of vegetation and through the increase in the grasses, this type of steppe gradually changes into the artemisian grass steppe, in which the grasses become 35 to 40 centimeters high. These steppes are used as meadows in the spring and in the first half of the summer--as long as the vegetation still hasn't withered away under the summer heat. Both types of steppes have developed on chestnut-colored

Both types of steppes[1] have developed on chestnut-colored 133
soil. Within these steppes salt-pans also appear. Further toward the 137
north the soil becomes darker, its humus content becomes greater (3 per- [134]
cent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock 231
breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat 242
have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large 282
leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the fore- 241
ground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important 231
animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area 361
around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into [234]
being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge 133
of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

133 which is covered with boulders and overgrown with bushes. From this plateau only a few rocky peaks extend above 1,600 meters. The bulk of it is covered with thick taiga. Adjoining it /219/ on the northeast is the Ikatskiy Mountain Range, which flows into the Vitim Plateau.

To the west of the Ikatskiy Mountain Range and separated from it by the broad depression of the Barguzin Valley, the Barguzin Mountain Range rises, which accompanies Lake Baykal to the northern end of the lake. The Barguzin differs sharply from the other mountain ranges in Transbaykal in its Alpine forms and its snow-covered peak, with individual mountains rising more than 2,300 meters above the Barguzin Valley and reaching an absolute height of up to 2,701 meters. In many parts of the mountain range, especially in the north, there are traces of an old glaciation: trough valleys, numerous lakes with a fjord-like appearance, etc. From these lakes project mighty drift blocks. Toward Lake Baykal the mountain range slopes down slowly, but toward the Barguzin valley it declines very sharply and steeply. Toward the Barguzin valley the mountain range character is also best stamped on the range. Here steep rock walls rise almost perpendicularly, projecting beyond the tree line, while typical taiga with very thick underwood covers the lower slopes. All this makes the Barguzin Mountain Range very difficult to gain access to. Some of the passes which exist can only be used by skilled hikers. It is therefore no wonder that in the Barguzin Mountain Range untouched nature has best been preserved, and even today this mountain range is still rich in valuable fur-bearing animals. Even the harshly persecuted sable has found a refuge here. The southern part of the mountain range, bordering on the village of Sosnovka on Lake Baykal, has been declared a national preserve.

The picturesque Barguzin Valley stretches for around 300 kilometers between the Barguzin Mountain Range and the Ikatskiy Mountain Range. In places the valley is up to 30 kilometers wide. In terms of its landscape it is divided into three parts. Thick taiga and numerous clearings, extending over the alluvial plains and covered with high grasses, are characteristic of the upper part of the valley, which extends as far as the mouth of the Garga. The central part, extending to the locality of Barguzin, consists primarily of sand with irregular surfaces traversed by dunes. Embedded in these sands are numerous swamps and lakes, and the rivers form a network of arms. Vegetation here is extremely poor and has a steppe character. The rocks projecting from the sand plains show traces of desert-like disintegration, indeed even aeolian sand erosion and other forms caused by wind such as otherwise are

peculiar only to dry climates. At the foot of the Ikatskiy Mountain [133
Range numerous warm springs bubble up; these springs contain above [312]
all sulphates. In addition there are mineral lakes, which, like the [135]
Alginsk lakes, lies in a basin of sulphate of soda of significant thickness. Below the locality of Barguzin the mountains come right down to the river and shut off the extended valley basin. Here begins the third part of the Barguzin Valley, the breach valley of the Barguzin toward Lake Baykal. On the right side the mountains press forward right to the river and present picturesque, alluring landscapes. On the left side, on the other hand, the mountains withdraw more or less /220/, making free a flat area along the shore. This landscape on the lower course of the river accompanies the river for almost 40 kilometers. Thus the Barguzin Valley presents an extremely remarkable landscape. Epsom salt lakes between alluvial swamps and lakes in the valley basins of rivers rich in water; wide development of sands with dunes and steppe vegetation; traces of desert-like disintegration; permafrost; warm springs; thick taiga on the circumference; snow-covered mountains in the background: all this shows a heaping up of contrasts such as is undoubtedly rarely found on the earth. The area around the upper course [135]
of the Barguzin has alluvial sands rich in gold. For the rest this area
is traversed only by Tungus reindeer breeders. The other part of the [361]
valley basin is an island of settlements in the middle of uninhabited mountain forests. Numerous Russians and Buryat here devote themselves to the breeding of livestock and to very considerable agriculture with irrigation. The rivers coming from the side valleys of the mountain range are used especially for the irrigation of the fields. The center of the main area of settlement is the village-city of Barguzin, which always has several thousand inhabitants. This city lies on the river of the same name. The Barguzin River is also navigable from here down and, via Lake Baykal, it represents the sole connection with the outside world.

Just north of the mouth of the Barguzin the Svatoy Noz Peninsula adjoins the land. This peninsula forms an island which is 55 kilometers long and is transversed by two mountain ranges which are up to 1,587 meters high. Only later is this island joined to the shore by a flat narrow piece of land. The material for this is supplied by the Barguzin, the heaping up and the alluvium provide for the current and the waves of Lake Baykal. The original view that the peninsula is a continuation of Ol'khon Island has shown itself to be incorrect, as Busch has shown. On the contrary Ol'khon Island is an underwater ridge running to the

133 northwest of the peninsula and separated from the peninsula by a channel. The Ushkani Islands northwest of Svatoy Noz, on the other hand, rise on this ridge and consist of the same stone as Ol'khon Island.

South of the Uda valley depression there next follows in parallel strips, running in the direction of Lake Baykal, the ridges of the Tsagan-Daban and the Khudunskiy Mountain Range, then--beginning in the west on the Khilok--the Saganskiy Mountain Range and the Tsagan-Khurtey, which is bordered on the south by the broad valley of the Khilok. The railroad follows the upper part of the Khilok. Between Khilok and Chikoy there then rises the Malkhanskiy Mountain Range which on the east flows into the Yablonovyy Ridge. All the valley depressions, such as that of the Uda, the Khilok, and the Chikoy, which on the west over a great width melts into the Selenga steppes, put on a different face the farther one goes to the east. The differences in height between the bottom of the valleys and the ridges become smaller, the slopes become flatter, the mountain forms become round, often with almost flat watersheds. The bottoms of the valleys lie at 850 to 950 meters above sea level, the passes have a height of 1,000 to 1,150 meters, and the peaks are 1,200 to 1,400 meters high. Toward the east the climate becomes markedly more contrary and damper, and accordingly the bottoms of the valleys /221/ show signs of increasing swampiness.
341 Correspondingly the population, which is limited almost exclusively to the valleys, also decreases toward the east. Because of the railroad line the valley of the Khilok is the best inhabited. In this connection Petrovsk-Zabaykal'skiy should be mentioned. It lies on the railroad line coming from Ulan-Ude on a section between the Saganskiy Mountain Range and the Tsagan-Khurtey and has the largest single foundry [342] in Transbaykal. The iron ore is delivered by the mines of Balyagansk northwest of Petrovsk, and the coal comes from Tarbagatay and Khalyarta in the valley of the Khilok. All three localities lie not far from Petrovsk and are connected to the main line by railroads. The valley area of the upper Khilok and that of the Chikoy are distinguished from the other regions in Transbaykal by the fact that in these valleys summer rye is well cultivated as grain for bread, while otherwise the cultivation of wheat predominates.

Apart from the above-mentioned coal mining localities, the city-like settlements of Khokhotuy and Bada, known for their processing of lumber, and also Khilok and Mogzon lie on the railroad line east of Petrovsk-Zabaykal'skiy and still in the valley of the Khilok, which flows into the Selenga. Khilok and Mogzon have, in addition to food

industry, metal and machine factories. East of Mogzon the railroad crosses the Yablonovyy Ridge and enters Nerchinsk Daur. 361

Nerchinsk Daur

The Yablonovyy Ridge, which is among the best known mountain ranges in Transbaykal, forms the boundary between the two Daurs. The Yablonovyy Ridge forms the watershed between the rivers flowing into the Amur and those flowing into the Selenga, and thus in the broadest sense it separates the sphere of rivers flowing into the Pacific from the sphere of rivers flowing into the Arctic Ocean. However, this applies only to its southwestern part, for above the Chita River the Yablonovyy shoves in between the Vitim and its tributary the Karenga, and further to the northeast it divides the river area of the Vitim from that of the Olekma, all of which flow toward the north to the Lena. In addition, the Yablonovyy Ridge forms a remarkable climatic and plant-geographic border. The influences of the east Asiatic monsoon penetrate as far as this mountain range and permit deciduous trees to flourish here as representatives of a more moderate climate. West of the ridge deciduous trees are lacking. In this connection the height of the ridge is not so significant as to permit such an influence to be expected. /33 [37]

The Yablonovyy Ridge generally attains a height of only 1,200 to 1,300 meters. Its highest point, which is 1,670 meters high, is the Sarakan, which lies northeast of Chita and which as a golets projects alone from the otherwise very monotonous surface. The relative differences in heights between the valley depressions and the ridges are, however, only insignificant. The railroad crosses the mountain range west of Chita at the Yablonovaya station at /222/ a height of 1,050 to 1,070 meters. The pass here lies only 105 to 125 meters above the valley of the Khilok on the northwest but it is 305 to 325 meters above the bottom of the valley of the Ingoda with the decline to the Ingoda valley also being shorter and steeper. This asymmetrical structure with a steeper southeastern slope and a flat northwestern slope is a characteristic of almost all the mountain ranges in Transbaykal. Obruchev explains this contrast by the effects of the frozen earth by means of solifluction and heavier erosion. The ridges themselves also appear little in the picture of the landscape. From the valley of the Khilok the slope rises slowly to the watershed, which appears to be an almost level rampart. The ridge itself is a more or less plain which is covered with thick forests. Sunk in this plain are saddle-like hollows taken up by swamps. From

133 these hollows, as a rule, the rivers find their origin.

Southeast of the Yablonovyy Ridge and its western continuation, the already-mentioned Malkhanskiy Mountain Range, there extends the rather wide valley of the Chikoy and of the Ingoda, which is for
361 the most part settled by Russians. Here the Russian villages lie along the rivers like pearls on a string, while only a few kilometers away there stretch mountain forests which are still uninhabited. The best connections to these areas of settlement are from the railroad stations of Khilok and Mogzon.

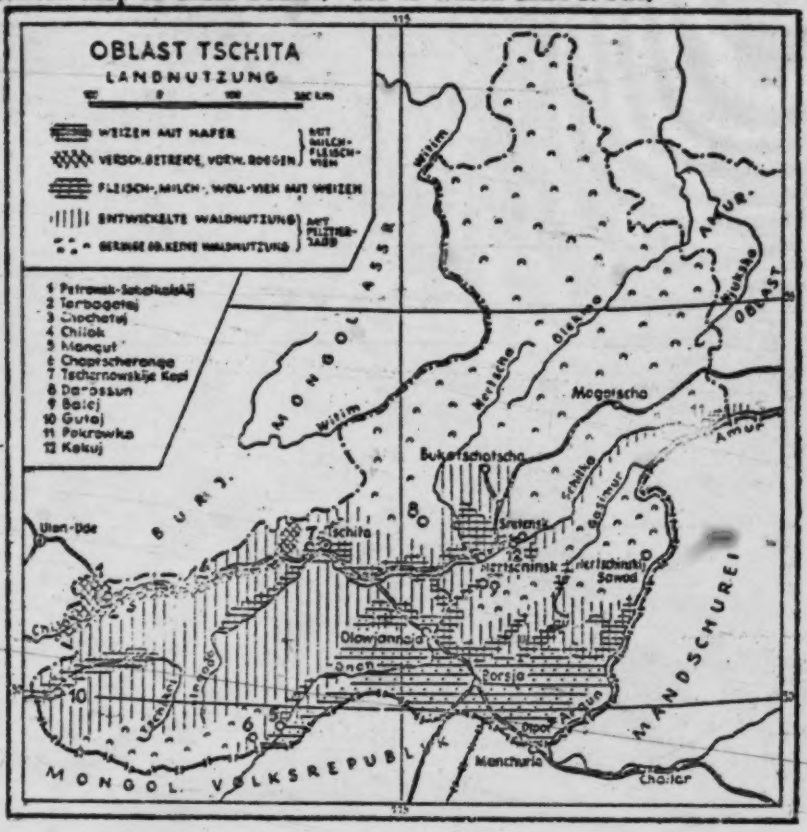
The capital of the region, Chita, lies at the point where the Chita River flows into the Ingoda. After the construction of the railroad line, Chita quickly developed from a small town into a large city, which by 1939 already had 102,555 inhabitants, and at present its population probably already exceeds 150,000. The city is built on both sides of the river of the same name, and, lying 660 meters above sea level, the city rises like an amphitheater on two terraces of the land rising toward the north. It lies in a dry, healthy region. Chita constitutes the economic center of the entire region. It is especially known for its fur and leather processing. In addition, there are concentrated in the city important flour mills, saw mills, and
[316] rather large repair shops for locomotives and railroad cars. A few kilometers west of the city lies the Chernovskiye Kopi, one of the
[317] most important coal districts in the area. Natural calcinated soda is extracted from the Doroninskoye Lake, which lies further up in the valley of the Ingoda.

133 From Chita the Ingoda breaks through on the southeast first the Cherskiy Mountain Range and then the Daur Mountain Range, and, then again bending in the direction of Lake Baykal, it finally follows the depression between the Daur Mountain Range and the Borshchovochnyy Mountain Range. In this depression the Ingoda unites with the Onon, which comes from the south. These two rivers then form the Shilka, the left source river of the Amur.

Approximately 60 kilometers below the point where the rivers flow together, and at the Nercha which flows into the Shilka from the north, is the city of Nerchinsk (28,000 inhabitants), and 85 kilometers further down lies Sretensk. Here the well-known Nerchinsk steppe island stretches on the left side of the Shilka, principally between the Shilka's two tributaries, the Nercha and Kuenga. /223/ /Sketch Map of Chita Oblast:/ The bulk of this steppe island consists of an almost ideal plain. The rest of the steppe island is gently

634
341

Sketch Map of Chita Oblast: Use to Which Land Is Put:



- wheat with oats
- various grains, predominantly rye

} with dairy and meat livestock

- meat, dairy, and wool livestock with wheat
- developed exploitation of the forests
- slight or no exploitation of the forests

} with hunting of fur-bearing animals

1. Petrovsk-Zabaykal'skiy
2. Tarbagatay
3. Khokhotuy
4. Khilok
5. Mangut
6. Khapcheranga
7. Chernovskiye Kopi
8. Darasun
9. Baley
10. Gutay
11. Pokrovka
12. Kokuy

rolling with gentle rises toward the edges. In the ground lies a granite foundation, over which is liparite and tuff, covered over by a thick layer of lacustrine deoposits, which point to the formation of the steppe basin from a former lake (Gladtsin, 69). Striking is the present day

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science, (Moscow, 1938), p. 174.

dryness, which forms a sharp contrast to the forest landscapes surrounding the steppe island. The low position (620 to 680 meters above sea level) as a depression between the contiguous mountain chains, may well be the reason for the special climatic conditions prevailing here. The fertile steppe soil, in many cases designated as black earth, has lead to thick settlement, and, accordingly, the grass steppe only rarely now shows itself in its original dress. The levelness of the steppe is interrupted only by flat, mostly dry valleys with gentle slopes. /224/ In the deeper places there appear damp meadows, often swamps, and also not uncommonly even salt-pans. The slopes of the valleys sloping to the north are overgrown with birches, poplars, meadows, and bushes, especially if the valleys have the character of a ravine. The transition to the forest landscapes occurs quickly. However, the souther slopes remain free of forests the longest and often appear in contiguous taiga as small forest steppe islands. Toward the Shilka the steppe plain breaks off with a steep, heavily valleyed, high step, which from the river often gives the impression of a mountain land. Next to the dairy and meat economy, the cultivation of grain stands in first place in the agriculture of the steppe island. The economic center is Nerchinsk with its mill plants, brandy and alcohol distilleries. In terms of transportation Sretensk has a better location, for there the regular Amur shipping begins. West of Sretensk in Kokuy there is a shipyard.

The Transbaykal Railroad runs from Nerchinsk on further on the left shore of the Shilka as far as Kuenga, and from here a branch railroad leads to Sretensk. The main railroad line, which from here on bears the name of Amur Railroad,[1] leaves the Shilka Valley at Kuenga and circumscribes the Shilkinsk Mountain Range in a great arc. Here in the north, lying in a side valley of the Kuenga and connected by a railroad line, are the coal mines of Bukachacha, which in their production stand in first place in Transbaykal, and farther to the east around the Mogocha Station lie extensive gold fields.

000 around the Mogocha station lie extensive gold fields. Thick taiga
137 lightly inhabited here crosses over all types of land. The raw climate is already strongly perceptible. Permafrost sets in already at a depth of 1 meter. The increasing swampiness of the lower places, and the increasing appearance of gol'tsy which are bare or covered only by bent wood vegation /Krummholzvegetation/, show that here we already find ourselves in the transitional area to the raw forest landscapes of the north.

133 The Baykal Cherskiy Mountain Range accompanies the Yablonovyy Ridge on its southern side and goes in the same direction as the Yablonovyy. East of the Ingoda break-through, the broad, swampy valley of the Chita River forms the border. Then the Cherskiy Mountain Range extends further still to the northeast into the still little known regions around the source of the Nercha. It is to this area, in the opinion of Vosnessenskii, that the 1,971 meter and 2,091 meter high Kropotkin Mountains belong. The course of the Daur Mountain Range, which adjoins the Cherskiy Mountain Range and runs in a parallel line to it, is still not fully clarified. Since the border between the two mountain chains is very vague, the two ranges are often referred to by Russian authors as one range, either under the first or the second name: In the break-through valley of the Ingoda the two mountain ranges can be recognized as separate units. Two tributaries of the Ingoda, the Olenguy on the right and the Kruchina on the left, divide the overall massif. Further toward the east the Daur Mountain Range remains on the left side of the Ingoda and Shilka, crosses /225/ the Nercha and, in the opinion of Gladtsin, could continue into the Shilkinskiy Mountain Range. In their gently rolling surface forms the two mountain ranges show their original form to be almost level. With the later elevation this original plain has been far more valleyed and divided up through increased erosion that the Yablonovyy Ridge has been; and, accordingly, watershed areas in some parts have disintegrated or show a course that is often very winding.

The Borshchovochnyy Mountain Range, the next mountain ridge to the southeast, is to be regarded as the last typical Baykal mountain chain. The Borshchovochnyy begins in the area around the upper course of the Ingoda and of the Onon on the Mongolian border and stretches almost 1,000 kilometers to the east-northeast. With this mountain range, too, the eastern part of its course is more marked and better known that the western part. Immediately after the break through in the Daur Mountain Range, the Borshchovochnyy forces the

3 [i.e. Shilkinsk Mountain region --Analyst]

Ingoda to turn to the east and then follows the river in the same direction. In a chasm the Onon here breaks through the mountain range from the south, but the ridge remains on the right side of the Shilka and, bordered on the south by the Gazimur, reaches the Argun where it runs into spurs of the Great Khingan. Thus two tectonic lines meet here at a sharp angle. The surface forms generally have the same character as on the above-mentioned mountain chains. The breaking up into valleys is especially prominent in the eastern part, along the Shilka and toward it, since here, following the usual picture in the Baykal area, the southern slope toward the Gazimur is short and precipitous, and, accordingly almost all the rivers are directed toward the Shilka. In the vegetation picture, too, the Borshchovochnyy Mountain Range still shows the full, thick forest covering; only south of Chita does the steppe penetrate even to the ridge of the mountain.

Toward the southwest, in the area between the long valley of the Ingoda and the Chikoy on the one side and the Onon on the other side, all three mountain chains--the Cherskiy, Daur, and Borshchovochnyy mountain ranges apparently flow together, according to knowledge to date. No sharp borders can be drawn here. The Borshchovochnyy Mountain Range, however, has the principal role here, for it carries the main watershed between the waters flowing off to the south to the Onon and the rivers heading toward the north to the Chikoy and the Ingoda. The Cherskiy and Daur Mountain Ranges, on the other hand, are broken through and divided into individual parts, not only by the upper courses of the Chikoy and the Ingoda but also by their numerous tributaries. The entire area covering the region around the upper course of the Ingoda, the Chikoy, and the Onon, has, in contrast to the rest of Transbaykal, a peculiar physical-geographical character. This area is a mountain land with numerous heights, which extend far beyond 2,000 meters. The best known mountain is the Sokhondo, which is 2,508 meters high. It lies on the main watershed in a mountain chain, whose highest elevations all reach between 2,243 meters and 2,332 meters. However, as Gladtsin (69) /226/ reports, north of

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science (Moscow, 1938), p. 169.

this series of heights mountains have been found which are not inferior

133 in height. Thus the Barun-Shebetuy golets, which lies between the Chikoy and its tributary the Chikokon and which is 2,556 meters high, is taller than the Sokhondo, which formerly was considered to be the highest mountain in Transbaykal. Because of their location away from everything and because of the difficult access to these uninhabited regions, they are still very little known. However, the research of Dengin gives a general picture of the landscape, which does not differ from the rest of Transbaykal in its geological-morphological history. The Barun-Shebetuy and also the gol'tsy neighboring it, like most of the mountains in the Sokhondo series, also have a flat surface, and the rest represents a strongly elevated area which is almost a plain. The present-day relief is the result of a very heavy erosion with an important role having been played by the glaciation in the Quarternary period, which is indicated on the Sokhondo by Kare /Karst?/, trough valleys, and moraines and which apparently also gripped the other mountains, which are no less high. Therefore, the same thing has resulted here as is shown by the morphological relationships in the western part of the Khamar-Daban and in the bulk of the Barguzin Mountain Range: everywhere that the diluvial glaciation has gripped a place, the elevated peneplain parts have experienced a much stronger shaping into mountain-like forms, indeed a shaping almost into the Alpine type, than the other areas. Of special morphological significance for the area around the upper course of the Ingoda, the Chikoy, and the Onon, is, in addition, the mighty appearance of intrusive rocks from the Paleozoic to the upper Mesozoic periods and also the appearance of effusive rock such as porphyry, dazite /Daziten/, andesite, and basalt of varying age. These rocks, because of their varying resistance, have contributed significantly to the differentiated shaping of the relief. From all this it is clear that the present-day relief does not correspond with the geological-structural formation and its direction by reason of the prevailing erosion processes of the past and present. The slopes of the
[137] mountains are as a rule covered with thick forests. Only on the sides facing south are there treeless steppes, especially, naturally, on the extreme slope facing Mongolia. Pure steppe, for example, crosses the foot of the Sokhondo to a height of 1,200 meters. Birches and aspens, soon joined by pines, constitute the transition to the raw mountain taiga, in which larches and Siberian stone birch predominate. From 1,900 meters on, the transition to mountain tundra begins via bent wood vegetation. As a consequence of mighty storms, the windfallen wood is very heavy. There are Russian settlers only on the outer

There are Russian settlers only on the outer 133
edge of the region in the valley plains of the main rivers; the entire, [361]
vast interior, on the other hand, is completely uninhabited.

The Manchurian Railroad branches off from the Karymskoye [496]
station between Chita and Nerchinsk. This railroad strikes the direct route to Vladivostok via Harbin. The last Soviet Russian station is Otpor, which /227/ lies opposite the Manchurian border. The railroad runs directly to the southeast and, in the process, crosses over all the mountain ridges almost at a right angle. After the Borshchovochnyy Mountain Range, there follows the Gazimur-Onon ridge, which reaches south of the Gazimur River to the Argun, and then the Erman, Nerchinskiy, Klichinskiy, and finally the Argun mountain ranges. All these mountain ridges run in the direction of Lake Baykal and run almost parallel to one another. The Gazimur-Onon ridge extends along the middle course of the Onon on the north side of the river until the break through of the river. The Gazimuro-Onon ends on the Argun between the Gazimur on the north and the Uryumkan on the south. It is never over 1,000 meters high. The Erman Mountain Range is already divided into two parts by the Tarey Basin which has no outlets. In the picture of the landscape of the entire region a gradual change is apparent from northwest to southeast, and also one from northeast to southwest.

From northwest to southeast, i.e., in the direction of the Manchurian Railroad, the ridges gradually become lower, the differences in height decrease. The coniferous forests and likewise the swamps disappear. A striking wealth of birches enters, covering first the ridges, then only the northern slopes, and finally making way for the pure steppe. In the process salt-pans can already appear in the depths.

To the northeast, toward the Argun, all the mountain chains become higher, the Erman Mountain range reaching up to 1,400 meters, the Nerchinskiy Mountain Range reaching up to 1,300 meters, and the Argun Mountain Range reaching 900 to 1,000 meters. In the regions whose waters empty into the Argun, especially in drainage areas of the Gazimur, Uryukan, and Urov, the land has the character of a medium mountain range with peaked heights, deeply etched river valleys, and larger relative differences in height (300 to 500 meters). The undeveloped water network with great drops and numerous stony current rapids and waterfalls points to a recent elevation of this region, whose landscape can be designated as the Argun type. Toward the southwest the absolute height of the ridges decreases, the relative differences become smaller (100 to 150 meters on the mean), the valleys become wide, the rivers form great arcs and numerous meanderings.

2 [i.e. in the area between the valley of the Ingoda, Chikoy and the Onon -- Analyst]

133 Side erosion predominates. Gradually the ridges dissolve into hills. This landscape, designated by Presnyakov as the Gobi type, takes up the entire southern part of the Argun region. Here are the mountain steppes of the Onon and Argun. The Tarey Basin, which is also designated as Onon plain by Russian geographers, should be named as the third province. The Tarey forms a basin with no outlets and extends beyond the Mongolian border as far as the Kerulen. In the center lie the Tarey lakes, of which various ones cover a significant area. Thus the Barun Tarey covers 435 square kilometers, and the Sun Tarey covers 300 square kilometers. The countryside is for the most part level and is interrupted only by former river valleys and lake basins which are now dry. The /228/ remaining lakes lie 60 to 70 meters below the general surface, i.e. at an absolute height of 620 meters, but they are always still up to 5 meters deep. Despite the clear signs of recent drying up, water springs appear in many places on the surface. These springs form the centers of human life. The steppe character often gives way already here to wasteland forms.

The border between steppe and forest extends from Aksha on the middle Onon via Il'inskaya to the north to the watershed between Aga and Ingoda, then on the Ingoda to the east to the mouth of the Aga. From here the border circumscribes the Argun mountain country in an arc swinging to the south via the localities of Onon-Borzya, Akatuy, and Algachi. The border then turns again toward the northeast via Nerchinskiy-Zavod to the Argun.

Southeast of Chita there begins the Aginsk steppe, a true grass steppe, which takes up the river area of the Aga and the middle Onon. [231] Here lies the national oblast of the Buryat, who have made the area into an important livestock-breeding region. The Argun steppe takes up the entire southeast, where livestock breeding likewise dominates the economy. But here there are Russians, who pursue the breeding of cattle and sheep in large, specialized, state farms. In addition, [241] there are also some state farms for horse breeding. To the north of both steppes agriculture, with wheat as the main product, is diffused over a large area, and in a broad front it penetrates to the south. [361] Along the great rivers and also along the Argun the villages extend in a line through the middle of the steppe. The diffusion of agriculture [134] is favored by the circumstance that, despite the often very poor steppe vegetation, a horizon very rich in humus, a type of black earth, has developed under the pitted grass /Grasnarbe/.

000 The wealth of natural resources is, however, of far greater

The wealth of natural resources is, however, of far greater 135
significance for the economic development of the future.* In this 489
connection the non-ferrous metals in addition to iron ore should be mentioned primarily. The still insufficient connection with the transportation network, however, offers the greatest handicap to the exploitation of the natural resources. Apart from the railroad line which runs from Karymskoye to Otpor to Manchuria, there are only land routes available. Even the very important zinc-lead mines in Khapcheranga, in Mangut, and on the Sokhondo can be reached from the Ulstuy station, west of Karymskoye, only by a built-up land route which is around 320 kilometers long. And by the same route, too, the produce of the mines must be brought to the railroad line on trucks. Because of the smaller differences in height the land route along the Onon valley to the Olovyannaya station has recently been used in perference to the above-mentioned route, which crosses more mountain ridges. Also the regions in the angle between the Manchurian side branch of the railroad and the Argun can only be reached by built-up land routes and truck transportation. Borzya on the railroad line appears to be 361
developing here into the traffic center. Toward the east a narrow-gauge railroad leads to the /229/ non-ferrous metal mines of the Argun district, and toward the southwest a similar line leads to Choybalsan in the Mongolian People's Republic. The city itself, located in the middle of the Argun steppe which is rich in livestock, has a large meat plant. In addition to Borzya there should also be mentioned on the Manchurian branch of the railroad the city of Olovyannaya, which has already been mentioned several times and which is known for its tin works. The bulk of the other localities have already been listed in the discussion of the natural resources.

*[i.e. of the Aginsk steppe -- Analyst]

The Vitim Plateau and the Northern Forested Mountain Provinces

To the north of the Yablonovyy Ridge, spreading east of the 133
Ikatskiy Mountain Range, is the Vitim Plateau, which is adjoined on the north by a series of mountain ridges. The entire region represents a forest mountain range landscape, which climatically is very raw and which makes it very difficult for man to make his way here. Agriculture disappears almost entirely here or is limited to small islands which are scattered sporadically. Only Tungus hunters and reindeer breeders in small numbers traverse the thick taiga and pass a laborious life. However, these wastelands conceal extraordinarily rich gold 316
streams, which are diffused especially in the central part of the Vitim Plateau and which have brought into being active gold

316 mining. Accordingly, these parts have been best explored and are best known.

/299/ /Sketch Map of the Vitim Plateau and the Northern Mountain Forest Provinces/1

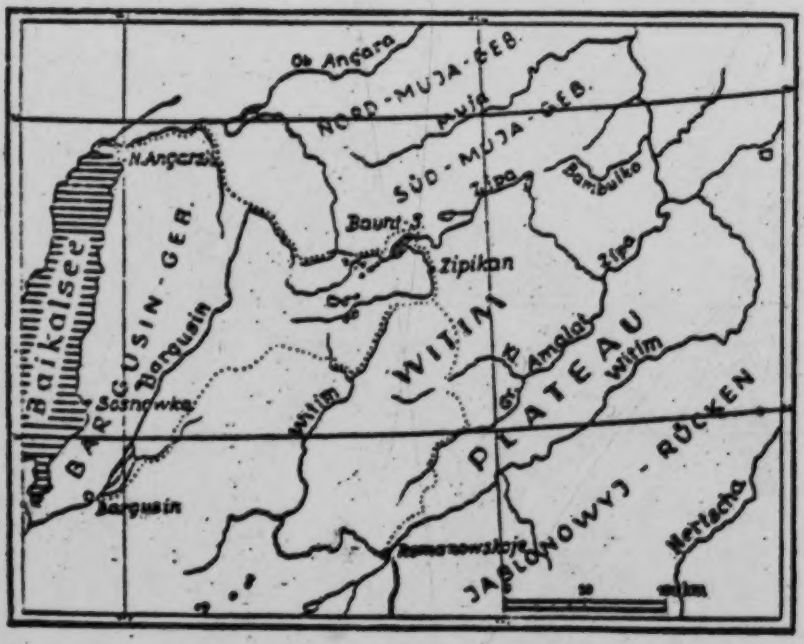
133 /230/ Here in the northeastern continuation of Transbaykal, the characteristic morphological traits are also clearly marked. There are old root plains, which are dissolved into horsts and grabens by breaks, with contiguous mountain ridges and wide valley plains appearing in addition to wide, gently rolling, high plains which have only mountain cores projecting above them. The old disturbance lines running toward the northeast in the Lake Baykal direction also traverse this area and determine the essential border lines of the morphological units. Accompanying the metamorphic and mass rocks of the Archeozoic era there are already here more recent sediments, and above all very frequently there are large basalt coverings, which are of decisive importance for the surface structure of various regions. The Ice Age has been influential in the morphological shaping in places, and has heaped up large moraines in the valleys. Generally the phenomena of frost and solifluction appear far more often than in the rest of Transbaykal.

The Vitim Plateau is formed from the growing together of the Transbaykal mountain ridges stretching there from the southwest. The bulk of the plateau is bordered by the Vitim itself. This river flows first toward the south, then turns sharply toward the northeast and then toward the north-northwest. The interior of the high plain is drained by tributaries of the Vitim, principally by the Tsipa and its tributary, the Amalat.

The plateau represents a monotonous high plain, traversed by flat-sloping embankments; between these embankments there are swampy plains covered by thick larch taiga. These plains often extend over ten kilometers and more without the slightest change. The little tiny rivers flow in flat, open valleys; larger rivers, on the other hand, have sunk 40 to 50 meters into the high plain with one side, washed away underneath, often appearing to be steep and rocky, while the other side extends as a damp, swampy plain, filled with small lakes. At present, side erosion predominates in all the valleys. The watersheds rise 400 to 600 meters above the bottoms of the valleys, but the watersheds lie at a very great distance from them. The absolute height of the main watershed reaches 1,700 to 1,870 meters with the passes having a height of 1,385 to 1,490 meters

1 [Cf. cat. 116, p. 261 -- Analyst]

Sketch Map of the Vitim Plateau and the Northern Mountain Forest Provinces



133

(Gladtsin, 69). Between the Tsipa and the Amalat, i.e., in the 133

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaikalia /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science (Moscow, 1938), p.151.

main division line, the watershed, however, projects only 360 to 450 meters over the general height of the surface; but with the flat slopes even their highest places differ only slightly from the surroundings. "Somewhat fewer grasses, in their place more moss, less green and fewer branches of larches, the appearance of low-growing birches in larger numbers than in the plains; all these are things by by which one can recognize the higher position of the watershed," says Kropotkin. The river area of the Tsipa is especially uniform in this connection. This results from the slight fluctuations in height along with great expanses in the horizontal lines; in addition, the thick forest covering conceals the irregularities in the surface and rounds off and equalizes the sharper contours. The broad valley areas, covered with swamp meadows, /231/ give way so gradually to rolling land that it is difficult to draw a border since the slopes mostly have an inclination of only 2° to 5°. However, here and there individual mountains with marked contours appear above the general surface. The majority of these mountains consist of granite. Above 1,500 meters these mountains are bare of any form of plant growth and appear as naked rocks studded with mighty blocks and boulders. They are the usual gol'tsy. As a rule they have the form of peaks or embankments; less commonly they have sharper features with the rock being decisive for the form.

Toward the peripheral regions the plateau is more broken up and in places acquires a mountainous character. This applies especially to the area around the upper course of the Barguzin and the Vitim. The southwest, on the other hand, again shows more the level, gently rolling surface. This is explained by the great basalt cover here, which lies over everything. Where this covering does not exist, the relief is sharper and shows more contradictory traits. The diffusion of the basalt is suited to the river valleys with which genetic connections must undoubtedly exist. The border of the diffusion of the basalt runs along the Vitim in the west and south, and in the north it runs along the Great Amalat as far as the meeting of this river with the Lesser Amalat; from here the border then withdraws toward the south to the

133 Vitim. The basalt covering thus fills almost the entire southwestern corner within the course of the Vitim. Here, too, three typically-formed volcanic cones have been discovered: the Mushketov Volcano; opposite it, on the right side of the Vitim in the vicinity of the mouth of the Kokyrtuya, the Obruchev Volcano; and somewhat above this, again on the left side of the valley of the Vitim, the Lopatin Volcano. The tree cones project approximately 100 to 160 meters above the surrounding area. Even if these volcanos may also have played a role in the formation of the basalt covering, still the greater part of the covering goes back undoubtedly to effusions in cleavages /Spaltenergüsse/. If the basalt covering has also contributed to the level character of the surface and to its maintenance, the rivers have cut deeply into the plateau in those places where they have succeeded in penetrating to the 20 meter thick basalt; accordingly, gorge-like, even canyon-like valleys are especially characteristic for these peripheral regions. These valleys with their rocky walls stand in sharp contrast to the level surface.

The main water veins of the Vitim Plateau follow in their course the tectonic lines. The Tsipa forms not far from the source of the Barguzin. It flows first toward the northeast in a broad valley filled with lakes; then, however, it very suddenly breaks out of this valley, turning to the south, and relinquishes to the Bambuyka the further use of the tectonic valley extending to the northeast. The Bambuyka after a certain stretch likewise breaks out toward the south and leaves the last stretch of the valley free for the Tuldunin, which reaches to the Vitim. The cross-bar which separates the Tsipa and the area around the source of the Bambuyka, consists only of a low hilly country of river boulder alluvium with lakes dug into the depressions. It is from these lakes that the /232/ Bambuyka also finds its origin. Old stone is also supposed to be underneath this boulder barrier. The second barrier between the Bambuyka and the Tuldunin is determined by a granite bar. After its break-out, the Tsipa flows in a gorge-like valley, which in places is narrow but which then later broadens into a wide depression. In this valley the Tsipa runs toward the southeast almost exactly parallel to the Vitim, only in the opposite direction, until it runs into the Amalat forming from the right. As the Great Amalat, this river comes from the southwest and in a broad valley extends toward the northeast approximately parallel to the southeastern border of the plateau and the Vitim which flows there. Although the Tsipa has more water, in the course of this valley it

becomes part of and continues the direction of its tributary toward the 133
northeast until it empties into the Vitim. In the Tsipa-Bambuyka valley and in the Amalat-Tsipa valley there are tectonic lines running in the Lake Baykal direction. These lines here are crossed by disturbance lines running southeast-northwest. These lines seem to be indicated by the middle course of the Tsipa and the northwest direction of the Vitim.

The valley of the upper Tsipa is indicated as the tectonic continuation of the Barguzin valley. It attains an extraordinary width (up to 25 kilometers and more) and represents the floor of a former important fresh water lake, whose surface, clearly indicated by terraces, lay at 1,129 meters above sea level. The present-day valley basin is taken up principally by peat moors and meadows with clusters of grass, in which a large number of lakes of all sizes have remained as remnants of the former water basin. The largest lakes are Baunt, Busani, and Okunevskiy lakes. Baunt Lake, through which the Tsipa flows, lies at a height of 992 meters. The southern part of this depression, which is rich in lakes, is used by a tributary of the Tsipa, the Tsipikan, whose source neighbors on that of the Vitim. In this area, on the upper Tsipikan and Vitim, lie the richest gold fields in the Vitim Plateau. Toward the east the former lake basin thins out to a narrow valley; and, accordingly, boulder barriers occur easily to stop the Tsipa and force it toward the south. The tectonically determined valley, however, as has already been stated, continues in the same direction toward the northeast and serves as a river bed for part of the Bambuyka and for all of the Tuldunin.

The most important gold regions of the Vitim Plateau are in 316
the upper courses of the Tsipikan, Vitim, and Lesser Amalat; in short, they are deposited somewhat toward the west, almost in the central part of the plateau. The gold streams in large part lie in the permafrost area, and, accordingly, the dressing of the ore and the extraction of the gold takes place with difficulty, even though dredges and mechanical gold washing installations are employed. The supplying of the area causes special difficulty, since supplies must be brought through vast, uninhabited taiga wilderness. To be sure, Baunt Lake supplies fish, meat comes in part from the reindeer herds of the Tungus, potatoes and vegetables are cultivated to a slight extent on the spot, but the outside world must be / 233/ relied on for the rest of the supplies. For this the Barguzin Valley plays the primary role, because the shortest routes, although difficult ones, lead from it to the gold districts.

316 [491 509] Land road connections also exist toward the south via Romanovskoye on the Vitim to Chita. A rapid and continuous means of transportation has recently been ensured by an airline, which is flown regularly and which connects Chita with Tsipikan, the center of the northern gold district.

133 To the north of the Tsipa-Bambuyka valley rises the Muya mountain country, which is divided into two long ridges by the river of the same name which flows toward the northeast to the Vitim. These two long ridges are the Southern Muya Mountain Range and the Northern Muya Mountain Range. The northern border of the latter is formed by the extended valley of the Upper Angara, which flows toward the west-southwest to Lake Baykal.

The Southern Muya Mountain Range, a mighty, massive horst, forms the watershed between the Tsipa and the Muya. It has a raw, wild appearance with a ridge of numerous gol'tsy, with an entire series of heights, crowned with snow, rising over 2,000 meters. The picture of the entire mountain range, however, is not unified, and the wealth of varying forms is determined by the change in the rock. The former root surface is, to be sure, heavily destroyed, but it is still always recognizable. In the higher places traces of an old glaciation are to be found everywhere in the form of circus /circular?/ valleys/Zirkustäler/, trough valleys, round basin lakes /Karseen/ and basin moors /Karmooren/, and, in the valleys, deposits of boulders and rubble. Because the Muya Valley lies at the slight altitude of 450 to 600 meters, the slope toward the north is much sharper than the slope toward the south to the Tsipa Valley, which generally has a height of more than 900 meters. The passes are difficult, small in number, and 1,450 to 1,700 high. From the swamps at the foot of the mountain range rise slopes covered with thick taiga. Here the ascent into the narrow valleys overgrown with shrubs is especially difficult. Only at heights where the vegetation discontinues, is there an opportunity for free movement.

The valley of the Muya is determined tectonically as a depression. It attains a width of up to 30 kilometers. A mixture of deposits of old and recent date makes the valley plain appear rich in variety. Hills, long embankments, sand bars with closed off lakes, in between swamps and moors displace one another. Terrace formations on the border of the valley and widely diffused lake sediments permit the basin of a former lake to be recognized in the valley.

The Northern Muya Mountain Range, likewise a horst, is

scarcely to be differentiated from its southern opposite. The valley of the Upper Angara, which opens onto Lake Baykal, has a certain moderation in climate, and accordingly there exist in this valley some agricultural islands occupied by Russians. Otherwise the entire region--apart from hunters and some Reindeer Tungus--is as good as uninhabited. This applies also to the mountain ridges lying farther north, such as that of the Upper Angara, its eastern continuation, /234/ the Delyun-Uramskiy Mountain Range, and the Mama Highland. Only far on the other side of this uninhabited zone, in the southern part of the Patom Plateau on the lower Vitim, are settlements worthy of mention encountered: such as Bodaybo, Leninsk, and Artemovsk, which the wealth of gold there, too, has caused to come into being. But all of these areas already lie outside of Transbaykal and can therefore be mentioned only peripherally. They belong to the sphere of influence of the actual Lena and tend economically toward Irkutsk and Yakutsk.

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The Olekma Mountain Country and Olekminsk Stanovik

With this region we encounter vast areas, which are almost uninhabited in most of the northern part and which are still very little explored. Thus even the relationship of the large mountain chains can still not be clearly laid down. Best known still is the most southerly part, which extends as a narrow strip along the Amur and whose waters also empty into the Amur. Thanks to the Amur Railroad, which runs almost parallel to the river at a distance of 50 to 75 kilometers, these sections are also more strongly incorporated in the economy and brought nearer to civilization.

The eastern border of the province is formed by the Olekma, its right tributary the Nyukzha, and the Amur tributary, the Oldoy. The western boundary is clearly marked only in the north by the Vitim; in the south, on the other hand, between the southeastern bend of the Vitim and the Amur, the border is undetermined since the Transbaykal mountain ranges continue here into the Olekma region without interruption.

The Yablonovyy Ridge pushes between the Vitim and the upper course of the Nercha into the area as far as the middle course of the Olekma directed toward the north. The Yablonovyy here stretches on the northern side of the upper course of the Olekma and divides its tributaries from those of the Kalakan and the Kalar, which empty into

133 the Vitim. The Yablonovyy Ridge thus divides the entire province into the Olekma Highland in the north and the Olekminsk Stanovik in the south. Even if the Yablonovyy Ridge, which many geographers consider to end already at the Karenga, a right tributary of the Vitim, continues as far as the Olekma, as Obruchev believes, and ends approximately opposite the mouth of the Nyukzha, it still has no connection, either from a geological or tectonic point of view, with the Stanovoy, which rises on the other side of the Olekma, as is still depicted falsely on many maps. The direction of the Yablonovyy Ridge runs into that of the Stanovoy almost at a right angle, or at least at a sharp angle. The over-all direction of the Stanovoy goes toward the west on the northern end of Lake Baykal and points rather to a connection with the Muya Mountain Ranges, but in no way to a connection with the Yablonovyy Ridge.

The following three mountain ridges in the Olekma Highland are listed from south to north: the Kalar Mountain Range, north of the river of the same name /235/ ; then the Udokan Mountain Range, and the Kodar Mountain Range. While the two latter mountain ranges are separated from one another by the valley of the Chara (flowing to the Olekma) and the Koyurla (flowing to the Vitim), the Kalar and Udokan mountain ranges melt into a plateau more than 2,000 meters high, in the east approximately in the middle between the Vitim and Olekma. Here, south of the area around the source of the Kalar, two mighty gol'tsy on the plateau rise to a prominent height. These are the Golets Skalisty' (Rocky Golets), which is 2,800 meters high, and the Golets Snezhny' (Snow Golets), which is 2,515 meters high. According to present-day knowledge, these gol'tsy represent the highest elevations in the Olekma Highland. A more recent report states that in the same Udokan Mountain range a still higher mountain by the name of Typur has been found, which even exceeds 3,000 meters. But nothing else is known about this mountain.

The Kalar, Udokan, and Kodar mountain ranges consist basically of pre-Cambrian crystalline slate and gneiss, which are penetrated by thick intrusions of granite. Only in the valley areas which separate the mountain ranges from one another, are more recent formations to be encountered; for example, in the valley of the upper Chara continental Jurassic is encountered. Although the three valley depressions are very wide and deep in parts, all three mountain ranges, nevertheless, have a symmetrical connection. The Kodar Mountain Range in the north has a flat northern decline and rises toward the south, where it breaks

off steeply at the Chara valley. The Udokan Mountain Range declines steeply on the north and on the south, in short, on both sides, while the Kalar Mountain Range has its steep decline in the north and declines slowly toward the south. 133

The Kodar Mountain Range, as seen from the Chara valley, represents a single closed mass, its high plain character being clearly recognizable. Through erosion this range has been broken into individual blocks. The Quarternary glaciation has contributed to widening and reforming the valleys. Most heavily cut up is the steep southern slope. The gol'tsy resting on the surface of the massif attain an absolute height of approximately 2,000 meters.

The Udokan Mountain Range in its picture shows a far greater unevenness than the Kodar Mountain Range. The former clod is broken up into irregular parts, which lie at various heights. Here, too, erosion has participated very strongly in the destruction of the original forms. Most strongly torn up is the decline toward the east to the valley of the Olekma. The highest places in the mountain ranges, especially in the area where the Udokan runs into the Kalar Mountain Range, received their present-day face through the Quarternary glaciation, whose traces are visible everywhere and give this part of the mountain range an Alpine appearance. But, in addition, there are also level high plains in the Udokan Mountain Range. In these high plains the original form of the post-Tertiary peneplain is visible.

Aside from the parts where it unites with /236/ the Ukokan Mountain Range, the Kalar Mountain Range generally has more high plains and flat gol'tsy, whose slopes are saturated with pieces of rock and boulders. The Kalar has preserved its plateau-like character better than the Udokan Mountain Range. Toward the south the Kalar slopes slowly to the middle and lower course of the Kalar valley.

The greatest part of the Olekma Highland is overgrown with thick taiga; only the high gol'tsy project beyond these forests and are covered with bent wood or tundra vegetation. The highest mountains are without any form of plant growth. The swampiness is generally very great. It occurs most heavily in the level high plains and the valley depressions. The valley of the Chara especially is very heavily covered with swamps, just as generally the valleys opening toward the north suffer more from much too much dampness than the valleys opening toward the south. However, already here lonely Russian settlements are found, in which agriculture is pursued. Tungus reindeer breeders are known in the valleys of the Kalakan and Kalar. [137] [311]

133 Gold streams are mined on the Ketemakhta, a left tributary of the [316] upper Kalar. Connection with the outside world is provided by [487] mountain paths, which lead toward the south to the Mogocha Station on the Amur Railroad.

The Olekminsk Stanovik comprises the entire area around the upper course of the Olekma and at the same time forms the watershed for the Amur. The entire region is described as a forest-covered plateau, whose general height lies between 950 and 1,000 meters. The river valleys are mostly deeply etched, and lie 80 to 200 meters below the surface of the plateau. The ridge between the Olekma and its right tributary the Tungir bears the name of Dzhaliro-Tungirskiy Mountain Range; otherwise individual designations are not known. The watershed for the Amur forms a flat ridge, which generally is only 800 to 900 meters high. Toward the south, toward the Amur, this ridge gives way very quickly to hilly country, which is interrupted by the broad valley areas of the numerous waters flowing into the Amur. The most important of these is the Amazar, whose valley [237] is also used for a stretch by the Amur Railroad. In contrast to the thick larch forests, which cover the bulk of the Stanovik, the vegetation on the slopes inclined toward the Amur includes numerous deciduous trees and thus shows already a more friendly picture. Gold is the 316 most valuable product of the regions. The river valleys between the upper Tungir and the Amazar are especially rich in gold. These valleys are very well opened up because of their nearness to the railroad. The center of gold mining is the city of Mogocha, which has approximately 30,000 inhabitants. It lies on the railroad on the left side of the Amazar. The alluvial sands of the little rivers flowing into the Amur also have gold and, therefore, from early times have [361] enticed many men who then remained in the land. Accordingly, the entire strip of land between the railroad and the Amur is relatively thickly settled. Worthy of mention here is the valley of the Urusha, which is crossed /237/ by the railroad at the station of the same name. In the vicinity of Urusha brown coal deposits have been determined, and, west of Urusha in the vicinity of the Yerofei Pavlovich station (which has more than 20,000 inhabitants), there are also usable tin deposits.

The Oldoy-Zeya Mountain Country

133 East of the area around the upper course of the Olekma, the

Amur country begins with the Oldoy-Zeya Highland. This highland comprises the drainage area of the Oldoy and of the upper and middle Zeya and extends from the Amur into the region of Uda Bay on the Sea of Okhotsk. Turning first toward the north and then toward the east, this region comprises the areas on the lower Zeya and Bureya, i.e., the interior Amur regions, which lie lower and which are for the most part flat.

In the west the region is bordered by the watershed between the Amur and the Olekma, and the Oldoy and Nyukzha; and on the north the region is bordered by the watershed to the Aldan, which runs along on the Stanovoy. The eastern border is formed by the watershed for the Uda and the upper and middle Bureya. The area around the source of the Selemdzha with its mountain chains and the Turana ridge with the Bureya Mountain Range will be discussed later. In contrast to Transbaykal with its rich alternation of narrow mountain chains and valley depressions, here we deal with large relief forms, namely with two long, wide mountain ridges and an almost equally wide depression lying between them. However, the horst form and the plateau-shaped surface of the ridge remain predominant as Baykal characteristics. Thus the region is divided into the mighty, massive Stanovoy in the north, at whose southern foot there clings the extended depression of the upper Zeya; this depression is, then, closed off by a long mountain chain running in a parallel strip. This long mountain chain consists of three parts following one another from west to east: the Yankan, Tukuringra, and Dzhagday. In addition, there is the fourth individual section, the Oldoy Highland in the west between the Yankan and the Amur.

The Stanovoy is generally still very little explored. It is, however, certain today that the former conception of a watershed mountain chain does not correspond to reality, but rather that the Stanovoy represents much more an entire mountain range system, which extend in a continuing width of 100 kilometers or more from the Olekma almost to the coast of the Sea of Okhotsk. According to Tanfiliev (207),

207. Tanfiliev, G.I. Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/. 2 vols. Odessa, 1923.

the Stanovoy system is divided into three relief zones running parallel to one another. Forming the northern edge and lying between soft

133 forms is a train of numerous, sharply set off groups and series of gol'tsy, which for the most part consist of eruptive stone and then project in especially strongly profiled mountain forms. The middle zone constitutes a plateau-shaped, /238/ /Sketch Showing the Morphological Profile of the Stanovoy Ridge from Bomnak on the Zeya to Great Toko Lake in the area around the source of the Aldan tributary, the Uchur, according to N.I. Prokhorov./ elevated ridge and is very broadly built up. Groups of mountains occur extremely rarely here. The character of a mountain range is often lost entirely, especially in the eastern half, and for the traveler there arises the impression of a vast, rolling plain; this impression is strengthened by the great swampiness and the numerous lakes imbedded there. On this high plain most of the rivers have their beginning, both those rivers flowing toward the north to the Aldan (Lena system) and also those flowing toward the south to the Zeya. The watershed is, therefore, not clearly determined by the relief, but rather it is very jagged. Therefore, many rivers also flow locally in a broad circle along the plateau, such as the Tok River, which follows this direction for more than 50 kilometers before it turns toward the south to the Zeya. The plateau-shaped ridge generally lies at an absolute height of approximately 1,000 meters; the highest places reach 1,300 to 1,450 meters. The northern border zone projects somewhat beyond the high plain, which, however, in the eastern part, north of the source rivers of the Zeya, has more considerable heights. The highest point here is measured at 2,482 meters. The southern border of the plateau again forms a more marked mountain landscape, but here there are only flat groups of gol'tsy without the character of a mountain range, and this section is not built up equally everywhere. As a rule the southern slope is formed by individual plateau sections, flatly inclined toward the south. Between these plateau sections lie valleys, which quickly become wider and which without a break go directly into the depression of the upper Zeya. As Ahnert (17) who crossed the

17. Ahnert, E. von. Zwei Überquerungen der Stanowoj-Wasserscheide /Two Crossings of the Stanovoy Watershed/ (Russian). Geologische Forschungen in den Goldgebieten des Amur-und Küstengebiets /Geological Research in the Gold Regions of the Amur and the Maritime Regions/, Vol. VIII. Petersburg, 1908.

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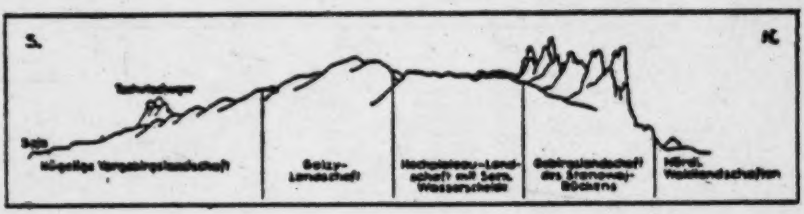

Sketch Showing the Morphological Profile of the Stanovoy Ridge from Bomnak on the Zeya to Great Toko Lake in the area around the source of the Aldan tributary, the Uchur, according to N.I. Prokhorov. The sections of the profile are as follows: Zeya, headland landscape, Chuchugur; gol'tsy landscape; high plateau landscape with lakes, watershed; mountain range landscape of the Stanovoy Ridge; northern forest landscapes.

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Stanovoy in two places, reports, it is characteristic of the entire structure of the Stanovoy that the plateau in the middle slopes both toward the north and also toward the south in step-shaped breaks, which stretch in a latitudinal direction. Also in terms of landscape there is a difference between the two outer zones. In the north the valleys are mostly filled with forest, and only the deepest places are taken up by moss hills and moss swamps, while the heights appear bare of forest and are covered with rock ruins and boulders or consist of smooth, steeply towering, contiguous bare rock. In the south, on the other hand, /239/ all the heights have thick forests, and only the valley areas are without forest, as a consequence of the greater swampiness. In contrast to the rest of the Stanovoy, the area around the source of the Zeya is also mountainous in the south. [137]

South of the Stanovoy stretches the upper Zeya's broad graben depression which is filled with forests and swamps. Opposite it and coming from the west is the valley of the Gilyuy which is significantly narrower. Both are among the richest gold fields in the Far Eastern regions and are, therefore, better known. The valley floors and even the gentle plateau slopes are mostly covered with a thick layer of moss drenched with dampness, while thick larch taiga grows on the better-drained slopes and elevated places. Deciduous trees occur here only very rarely. As a consequence of the predominant permanently frozen earth, there are often moss hills containing ice cores. These hills are often several meters high, and, if they appear in large numbers, they give rise to a landscape similar to a hill tundra. The crossing of such moss swamps is made difficult by the fact that the frozen earth has gaps, probably because of warm springs, and, accordingly in such places one can sink to unfathomable depths. Where gold mining is pursued, the taiga as a rule is destroyed beforehand by forest fires set off intentionally. The taiga thus gives way to a horrible, plundered landscape, in which there are numerous, deserted huts, which, overgrown with bushes, are falling into ruin and increase still more the despair of the picture. The region does not have larger localities. There are some villages, such as Potekhino and Bryatan in the center of the depression, in which there are larger supply warehouses from which the widely scattered settlements of gold washers are supplied. The extraction of gold, now run by the state, brings rich yields and has made the depression into one of the most important gold areas in the Far East. The gold streams lie along the Zeya and the Gilyuy and their tributaries. The very great swampiness and the existence of

[316] [137] [361] [316]

133 permafrost, however, create great difficulties. Development of the area is hampered by the area's remoteness and the difficulty of gaining access to it, since the break-through valley of the Zeya toward the [505] south represents the sole gateway to the depression. To date the supplying of the area has been done on the water route as far as the locality of Zeya, for the Zeya River is navigable to this point. The [491] supplies are then brought by vehicles further up the river. The area around the upper course of the Gilyuy is crossed by the highway from Never to Yakutsk. This highway crosses the Tyndinsk, a tributary of [496] the Gilyuy, at Tyndinsk. The new Baykal-Amur Railroad, coming from the Nyukzha valley, is also supposed to enter the valley of the Gilyuy at the same place and to follow the Gilyuy as far as the Zeya, in order then likewise to use the Zeya's break-through valley as an exit toward the south. The laying of this railroad line through the Zeya-Gilyuy depression is expected to lead not only to better opportunities for exploiting the gold fields but also to the use of the rich supplies of wood in the forests, and finally also to better settlement of the area.

/240/ The depression of the upper Zeya and Gilyuy is cut off into a vast basin on the south by a watershed mountain chain. The Zeya is the sole river flowing off to the south in this basin. This mountain chain is regarded as a continuation of the Daur and the Shilka mountain ranges; it stretches from Transbaykal via the Olekminsk Stanovik to the depressions of the Amgun (left tributary of the lower Amur) (207). This entire line of mountain ranges was, according to

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, 2 vols., (Odessa, 1923), p. 250.

Ahnert (16), formed partly by faulting but principally and especially

16. Anert /sic/, E.E. Kratkii geologicheskii ocherk Priamuria /Short Geological Sketch of the Amur Region/. Geological Research in the Gold Regions of Siberia, Vol. XVII. Petersburg, 1913.

on the southern edge, by break formations. Within the Oldoy-Zeya Highland the chain of mountain ranges begins in the west with the Yankan Mountain Range, which lies between the upper courses of the

Oldoy and of the Great Urkan. Without a prominent delimitation the 133
Yankan extends out from the Olekminsk Stanovik toward the east and also shows a gradual transition through the dissolution of the plateau-shaped surface, both toward the north to the area around the upper course of the Gilyuy and also toward the south to the Amur. The Tukuringra Mountain Range stands out far more sharply in its isolation, since it forms the demarcation line between two marked depressions, i.e., between the already mentioned depression on the upper Zeya and the Gilyuy in the north and the wide Zeya-Bureya plain in the south, which here projects toward the north as far as the foot of the mountain range. The Tukuringra Mountain Range consists principally of metamorphic rock and in part of gneiss and crystalline slate. It is heavily cut up by extensive erosion and divided into individual massifs, which in part also go back to vertical dislocations. The surface is characterized by the usual plateau form with peaks and gol'tsy set on it. The gol'tsy often stand close to one another and not uncommonly form a middle mountain range landscape with significant differences in height. The general height of the plateau area is 900 to 1,000 meters, while the peaks project 500 to 600 meters beyond this. A great part of the mountain range is covered with thick taiga, and [137] only the highest gol'tsy are without forests. Accompanying the Siberian types of trees are numerous deciduous trees on the southern slopes. These deciduous trees give a more friendly stamp to the picture of the landscape. However, along with the moderation of the climatic conditions, an extraordinarily thick underwood sets in at the same time. This underwood is very much of a hindrance to man's advance, and, accordingly, despite the lighter colors, the landscape's animosity to cultivation remains here too--a quality which especially distinguishes all these mountainous regions.

From the Dep River, a left tributary of the middle Zeya, the continuation of the chain of mountain ranges toward the east bears the name of Dzhagdy Mountain Range. A cross-connection from it toward the north to the Stanovoy forms the eastern cut-off of the upper Zeya depression and at the same time the watershed between the Zeya and the Uda. This remote mountain barrier is as good as not explored at all. In its central part it is supposed to be 2,000 meters and more high. The Dzhagdy Mountain Range itself continues generally toward the east with a change several times in its direction. -/241/ It divides the drainage area of the Uda from the Selemdzha, the largest left tributary of the Zeya, and then goes over into the Bureya Highland, whose

133 northern edge it represents.

The Oldoy Highland is the smallest part of the region as a whole, and it comprises the area between the Yankan Mountain Range and the Amur. Already from the region around the source of the Oldoy toward the south the landscape flattens out and dissolves into individual ridges, mountains, and valley areas, giving the overall impression of a mountainous and hilly landscape. Toward the southeast, between the Urkan and the Amur, the broad hill ridges gradually disappear altogether, and the landscape here flows into the so-called Amur-Zeya plateau, which already belongs to the greater landscape of the Zeya-Bureya plain area.

491 496 The Oldoy Highland is traversed in the north by the Amur Railroad, from which a railroad line to the Amur harbor of Dzhalinda branches off in Skovorodino (more than 20,000 inhabitants), the seat of a railroad office. Thus, in terms of transportation, this region is quite well opened up. This is also true of the most heavily populated parts within the overall region. The alluvial sands of the rivers to the north of the Amur Railroad, especially the valleys of the upper Oldoy, and of the Great and Lesser Urkan, are rich in gold. The built-up highway which is mentioned above and which can be used throughout the year, leads from the station of Never (around 10,000 inhabitants). This highway crosses the Tukuringra Mountain Range and the Stanovoy in its western part and goes via the Aldan gold fields to Yakutsk. It reaches Tyndinsk in the area around the upper course of the Gilyuy. This important highway has recently been supplemented by a railroad line from Skovorodino to Tyndinsk, where there is a spur to the great Baykal-Amur Railroad (BAM). With this a direct cross-connection between the Amur shipping and the BAM is supposed to be created. The new railroad line, in addition, opens up new areas for settlement, just as the construction of the Amur Railroad has become a pacemaker for heavier settlement by an agricultural population. Also in the less swampy valley areas between the railroad and the Amur River agriculture is 361 pursued relatively actively. Accordingly, a lively food industry and also machine building shops and repair shops have been able to develop in Skovorodino, which has already been named as the center of the Oldoy Highland. Brown coal, which is mined in the vicinity, is used as the raw material for energy. To the north of the city tin supplies [509] have been determined. An airfield in the vicinity connects Skovorodino to the great airline running from Moscow to Khabarovsk to Vladivostok.

The Zeya-Bureya Plain

This area is the section of the Amur country which is the richest /133 in population and which is the best opened up economically. The easily accessible plain, the milder climate, the fertile soil have from early times /242/ caused a relatively heavy population to settle here, and pursue agriculture. This plain is the granary of the Amur region; 80 [311] percent of the total area under cultivation in the region lies here.

The region falls into two sections: the Amur-Zeya plateau in the west and the great Zeya-Bureya lowland, which extends east of the lower course of the Zeya along the Amur as far as the Bureya Mountain Range.

The Amur-Zeya plateau takes up the western part. This plateau stretches between the Zeya, its tributary the Urkan, and the Amur. The plateau declines slowly from the northwest to the southeast; the interior sections are gently rolling open country; on the other hand, the rivers toward the outside have dug deep gorges. The plateau breaks off sharply toward the lower Zeya and toward the Amur. On the right bank of the lower Zeya the decline becomes 180 to 240 meters deep and, with its heavy gorge formations, gives the impression of a mountain when viewed from the eastern "meadow shore." On the Amur the plateau lies 100 to 120 meters above the river at most, but only very rarely does the plateau come near the river. Here between Chernyayevo and Blagoveshchensk, the Amur valley has four terraces. The lowest one is exposed only when the water is low. Adjoining it with a step up of 4 to 6 meters, and, in places even 8 meters, is the meadow terrace with sandy, gravelly, and muddy deposits. This terrace is considerably wider and is regularly flooded when the water is high. The next middle terrace lies 10 to 20 meters above the normal water level and also breaks off precipitously toward the second terrace mentioned above. Forming a steep bank, this terrace also goes right to the path of the water in many places. There are already settlements in many places on it. The fourth or upper terrace attains a height of 50 to 60 meters and is less clearly set off. The northwestern [137] part of the plateau still has a thick forest covering, but here the percentage of deciduous trees is very considerable. Toward the southeast the thickness of the forests decreases, and they gradually give way to a type of forest steppe. Characteristic of this section are little birch forests and extensive swamps and swamp meadows. Accordingly, livestock breeding predominates among the Russians settled here.

361 Only in the southeast in the triangle between the Amur and the lower Zeya is there an agricultural settlement covering an area of any size. In the rest of this region a zone of settlements with many gaps accompanies the Amur and the railroad.

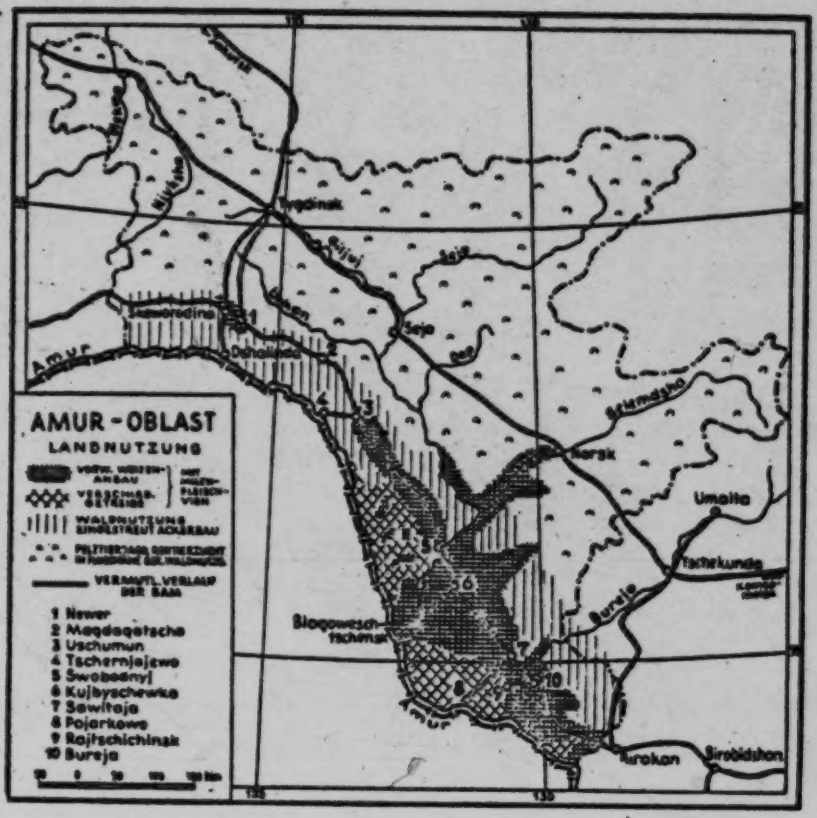
49% The Amur Railroad runs approximately along the middle of the plateau and uses the watershed exactly, since along the watershed there was, for understandable reasons, the best and the easiest opportunity for marking off. A branch railroad, 38 kilometers long, leads from Ushumun station to Chernyayevo on the Amur, in the center of a region with great prospects for the future, for here only a few years ago hard coal deposits were determined. These deposits stretch along the left side of the Amur between its tributaries, the Urinda and Magdagachi, i.e., approximately around the locality of Chernyayevo mentioned above. The coal is of Jurassic age and lies in individual anticlines, which stretch toward the northeast. Although, judging from individual tests, the ash content of the coal is supposed to be great, the deposits have a prominent significance because they lie in a region /243/ /Sketch Map of the Amur Oblast:/ which formerly had to be supplied with coal from a great distance. In some places the coal-bearing layers are broken through by granite laccolite and porphyry effusions, and thus the coal here has been transformed into valuable semi-anthracite and full anthracite. Nothing is known of the total supply in the deposit designated by the Russians as the "Upper Amur Coal Basin." There are numerous outcroppings on the Amur and in the individual river valleys. Very recently the mining of the coal deposits in the vicinity of Madgagachi has begun.

361 The principal locality in the northwestern part of the plateau is Magdagachi (approximately 10,000 inhabitants); the principal locality in the southeastern part is Shumanovskaya (approximately 25,000 inhabitants). Both of these towns lie on the Amur Railroad. [487] The Tygda station between Madgadachi and Ushumun has greater significance in terms of transportation. A land route leads from Tygda via Ovsyanka, which lies at the point where the Zeya and the Urkan flow together, to the Tukuringra break-through of the Zeya. This is the shortest land route connection from the Amur Railroad to the gold fields on the upper Zeya and the Gilyuy.

133 /244/ East of the lower Zeya begins the Zeya-Bureya Lowland, which stretches toward the east along the Amur over a broad area extending beyond the lower course of the Bureya. The end of this low plain is prepared by the high embankment of the Bureya Mountain

Sketch Map of the Amur Oblast: Land Exploitation:

634
311



Predominantly cultivation of wheat / Various grains } with dairy and meat livestock

Exploitation of the forests intermixed with scattered agriculture

Hunting of fur-bearing animals, breeding of reindeer, slight exploitation of the forests near the rivers

Presumed course of the BAM

1. Never
2. Magdagachi
3. Ushumun
4. Chernyayevo
5. Svobodnyy
6. Kuybyshevka
7. Zavitaya
8. Poyarkovo
9. Raychikhinsk
10. Bureya

Range, which here goes up to the Amur. Toward the north the plain 133
extends into the river area of the Selemdzha as far as the spurs of the Tukuringra Mountain Range. Vast plains, formed by Tertiary fresh water deposits, warm, damp summers, extensive agriculture, a heavy population, numerous villages and little cities--all these are the main distinguishing marks of this region.

The southern part along the lower courses of the rivers is almost completely level and is often covered with old waters, swamps, and lakes. But even here dry islands rise in long, flat waves in the areas between the rivers. Morphologically, however, these dry islands are scarcely striking in the plains which generally predominate. Instead, something of a change in the vast monotony is brought by the paths of the rivers, all of which have a marked steep right bank which though not high, is still heavily gorged. The left meadow shore, which mostly is covered with swamps, then rises gradually to the watershed areas. The Bureya continues to show this asymmetrical shore formation even far into the mountain country. North of the Tom', a left tributary of the Zeya, the relief changes. It becomes rolling, hilly, and rises gradually toward the north. Here ends the contiguous 133
meadow steppe, which in its natural state has grasses as tall as a man 137
growing on it. These grasses have brought the steppe the name of "Amur Prairie." This meadow steppe makes way for a magnificent, peculiar forest steppe, in which the hills and high places are covered like islands with oak forests or bushes, while the meadow steppe continues in the lower spots. The dampness of the soil decreases, even though in spots there are often swampy places in the loamy soil. With the further rise toward the north the differences in height become greater, the valley areas become deeper and narrower. Coniferous trees appear on the mountains. The swampiness of the valleys begins to increase again. Slowly the dark taiga takes possession of the entire land, while in the background the rocky peaks of individual gol'tsy already rise from the contiguous greenery.

The significance of the Zeya-Bureya plain is based on the 134
extraordinary fertility of its soil. Tomashevskii (219) has investigated

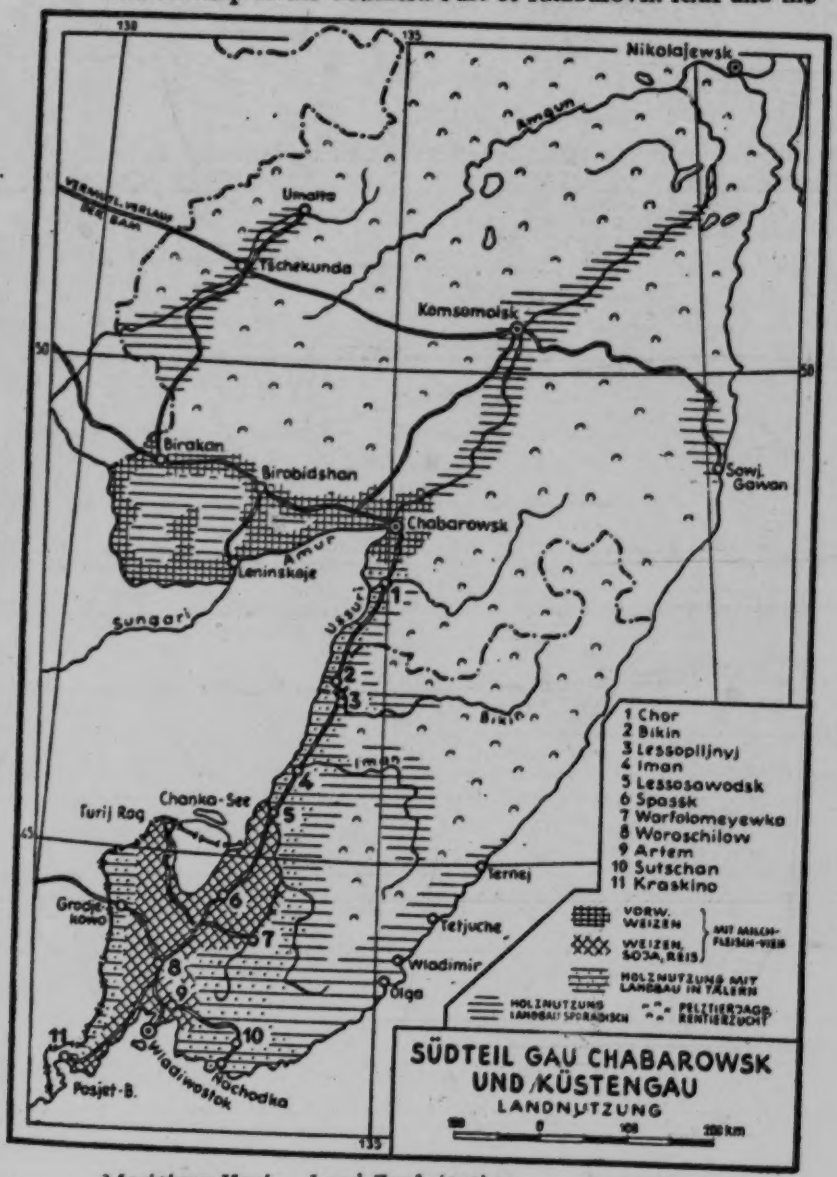
219. Tomashevskii, I.I. Pochvy iugozapadnoi chasti Zeiskobureinskogo vodorazdela /The Soil of the Southwestern Part of the Zeya-Bureya Watershed/. Works of the Amur Expedition, Vol. XV. Petersburg, 1912.

134 a large part of this region in this connection. In the southwest soils of intensive black color have developed on the heavy loam. This soil is covered with meadows and pastures with high grass. The black color is the reason that the first explorers put this soil in the category of black earth, and even today this soil is designated still as "chernozem" by the native population. But this is not black earth, for it lacks the granular structure, and also the heaping up of carbonates cannot be determined. During the summer the humus horizon is soaked with water, and in horizon B regeneration processes /245/ /Sketch Map of the Southern Part of Khabarovsk Krai and the Maritime Krai:/ 1/246/ go forward, which often point to light podsolization. This semi-marshy meadow soil, as Tomashevskii calls it, is, however, not inferior to black earth in fertility and is in a position to produce excellent wheat harvests year after year without any fertilization. As a rule this soil lies in higher places at some distance from the river valley areas, and it covers more than half a million hectares. Somewhat less fertile is a type of soil which is distributed in the deeper depressions and is likewise semi-marshy. This type of soil bears the designation of "miasigi" (kneaded mass /Knetmasse/) among the native population. Here, too, the deep black, upper horizon of soil has developed on heavy loam, but the signs of regeneration are more sharply marked. During the summer dampness horizon B becomes tough, sticky, and viscid like dough, so that, horses sink into the earth and the soil can be worked only with difficulty. In its natural state the "miasigi" is covered predominantly with sedge (Calamagrostis) and moss (Polytrichum) and thus already in its external picture stands [137] out from the relatively drier soils. Brighter podsol soils take up a large part of the Zeya-Bureya plain, especially toward the north and east, with white birches settling by nature on the heavier soils and black birches and oaks on the lighter soils. These trees were already known to the first Russian settlers as indications of the soil. The bleaching out varies gradually and is generally slight. The fertility of this soil is supposed to be equal to that of black earth. Above all this soil can be easily worked since the drainage is better.

During the dry period the Zeya-Bureya plain recalls the black earth steppes of southern Russia. However, during the rainy period the picture changes completely. Flat basins fill up to become lakes, valleys are flooded, and water even remains standing in level areas. Thus Tomashevskii has been very surprised how anyone could ever have arrived at the thought that black earth has formed here. The

1/ [Cf. Cat. 116, pp. 282-283 - -Analyst]

Sketch Map of the Southern Part of Khabarovsk Krai and the



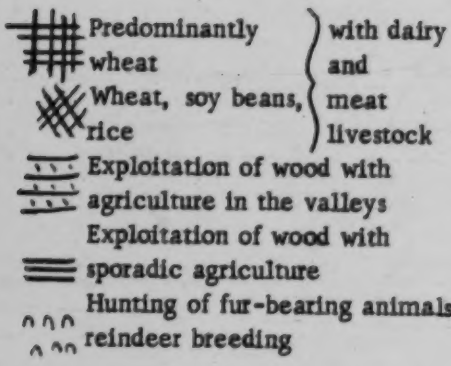
Maritime Krai: Land Exploitation:

(Captions to map on following page)

634
311

(Captions to Map on page 282)

1. Khor
2. Bikin
3. Lesopil'noye
4. Iman
5. Lesozavodsk
6. Spassk
7. Varfolomeyevka
8. Voroshilov
9. Artem
10. Suchan
11. Kraskino



black earth regions in southern Russia have a damp spring and a dry summer. Here it is the reverse: the spring is dry; the summer, on the other hand, is very damp. 134

On the lower Bureya red earth is diffused under lightly podsolized soil. This red earth is the product of the weathering of gray Tertiary slate, and it owes its brick red color to enrichment by iron oxide. This red earth indicates that the climate of the Tertiary period must have been much warmer than it is at present. Also on the lower Amur the same Tertiary red earth has been determined. "Grapes, cork trees, and tigers are vestiges of that time when the red earth was forming, while pines, firs, and reindeers harmonize very well with the present-day formation of soil of the podsol and swamp type," says Glinka (70).

70. Glinka, K.D. O drevnikh protsessakh vyvetrivanniia v Priamurie /On the Old Weathering Processes in the Amur Region/. Pochvovedniie, 1911.

Region/. Pochvovedniie, 1911.

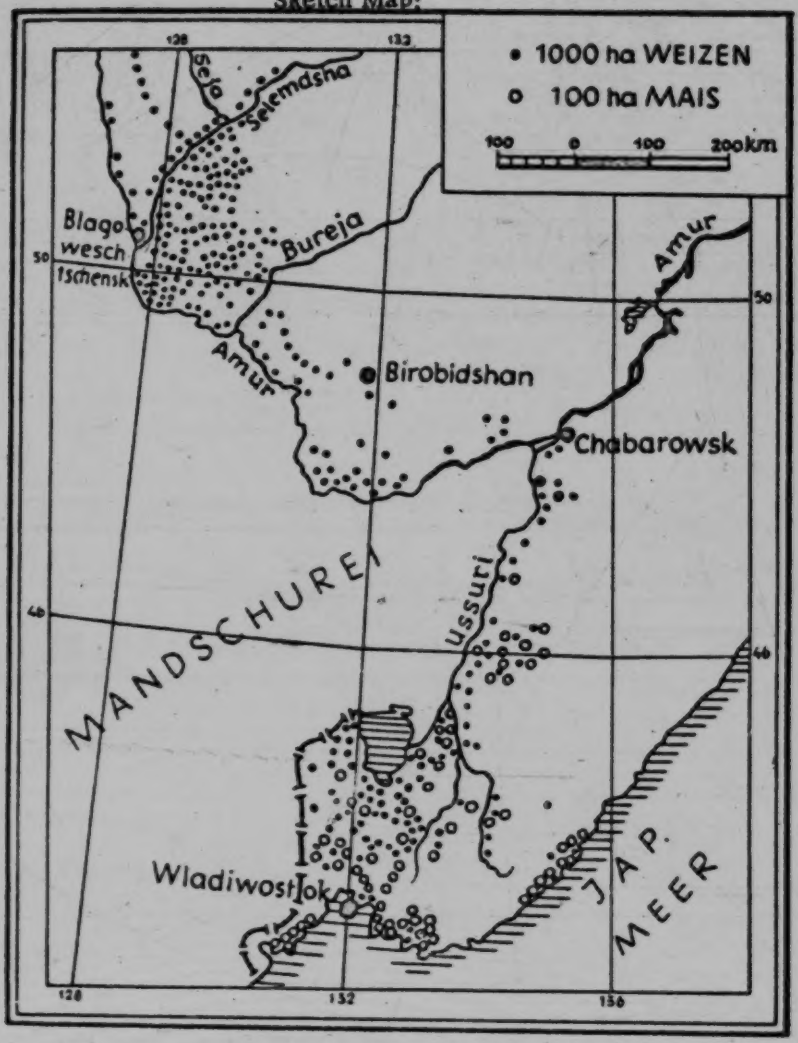
133 The northern part of the Zeya-Bureya plain lies generally below 500 meters above sea level and declines toward the lower Zeya and the Amur, /247/ /Sketch Map:/ /248/ where the greatest part lies at less than 200 meters above sea level. At Blagoveshchensk the Amur has a height of 120 meters. In individual places the substratum comes out from the flatly deposited Tertiary layers in the form of individual rocks, which consist of granite, Jurassic conglomerates and Jurassic sandstone, or also of porphyry.

The great dampness of the Zeya-Bureya plain, which arises from the excessive summer rainfall, leads in the unlevel regions to hanging landslips and solifluction phenomena of manifold types, which cause great difficulties in the construction of roads and installation of railroads, especially when--as, for example, in the country of mountain spurs--permafrost appears. The peasant fights constantly against threatening swampiness by draining his land. Despite these [311] difficulties, the area under cultivation is increasing continually. The swamps, which as a rule are covered with clusters of grass, are turned into hay fields by fires set off every year, and these hay fields in turn are then turned into cultivated land.

361 Settlement is very thick, and in the valley area of the Zeya, Selemdzha, and Bureya it penetrates farther and farther into the interior. In the plains one can often see from one village to the next one. The settlements differ in no respect from those in the Russian homeland. And when in mid-summer sunflower fields glow between the yellow gold of wheat fields, one might feel himself transported [214] to southern Russia. The cultivation of soy beans and perilla, which here lays claim to a significant percentage of the area under cultivation, [496] appears foreign, however. The railroad crosses the Zeya at Svobodnyy (10,000 inhabitants), where an active wood industry has developed. A branch railroad, which is 108 kilometers long, leads from Kuybyshevka with its more than 10,000 inhabitants to Blagoveshchensk (58,700 inhabitants), the capital of the region. The city extends along the shore of the Amur for a distance of almost 8 kilometers, toward the mouth of the Zeya. The Zeya here is 2 kilometers wide and exceeds even the Amur into which it flows. The city is the center of the entire agricultural area and has numerous flour and oil mills. In addition, the processing of lumber also plays a large role. The lumber is floated here on the Zeya and the Amur. Opposite Blagoveshchensk,

Sketch Map:

243



• 1,000 hectares of wheat
O 100 hectares of corn

on the Manchurian side, lies the city of Heino (Sakhalyan), from whence there is a spur to the railroad network of Manchuria. The area around the lower course of the Bureya has the same character in terms of landscape as do the plains on the Zeya. The nearness of the highland permits the basic rock to come out more often here. The population is likewise dense and in the valley of the Bureya penetrates farther toward the north into the highland. The center of the region is the little city of Bureya, which lies at the point where the railroad crosses the Bureya River. A railroad line, which is 43 kilometers long, branches off from here to Raychikhinsk, the center of the largest brown coal deposit in the Amur country. Zavitaya, from which a new railroad line has been built to Poyarkovo on the Amur, /249/ has acquired a growing importance during the most recent period.

The brown coal fields lie between the railroad and the Amur and stretch from the Bureya in the east to the Zavitaya in the west, covering an area of 600 square kilometers. Raychikhinsk and Kivdinskiy are the centers of the coal mining. The transporting of the coal is done for the most part by railroad to the Bureya station, where there are opportunities to transfer the goods to river shipping.

The northern part of the Zeya-Bureya plain is drained primarily by the Selemdzha. The population here decreases rapidly toward the north, and settlement is limited to the valley areas of the rivers. On the Zeya, settlement reaches to the town of the same name at the foot of the Tukuringra Mountain Range; and on the Selemdzha, settlement ends approximately at Norsk. Both rivers are regularly traveled by steamships as far as the localities named. With the new construction of the BAM, which goes from the middle Zeya and runs through the area toward the east and crosses over the Selemdzha at the locality of Norsk mentioned above, new prospects have opened up for the further development of these regions, which are favorable for settlement but which in the past were too remote.

The Bureya Mountain Country

The Bureya Highland has a central position in the Amur country. It forces the Amur to make its large southern bend; and, in the south where it joins the Little Khingan, it makes a path to the east free for the Amur only in a narrow break-through valley. In the same place the Bureya Highland shoves itself like a wedge into the great depressions running along the Amur and separates the Zeya-Bureya plain in the

133 west from the depressions on the lower Amur and Amgun.

For the most part the highland comprises, as its inner zone, the drainage area of the Bureya, which also is bordered by the two main chains of the highland: i.e., in the west by the Turana Ridge, which is the watershed toward the Zeya, and in the east by the Bureya Mountain Range, which represents the watershed toward the lower Amur.

The Bureya Mountain Range forms the backbone of the highland. It begins on the Amur as the continuation of the Little Khingan which stretches from Manchuria over the river toward the northeast. The Bureya Range is, therefore, also known under the name of Little Khingan. But here the Russian geographers, who designated the mountain chain generally as the Bureya Mountain Range, are to be followed. These mountains run principally toward the northeast, though the direction of individual sections changes from place to place. This continues until the mountain range runs into the already mentioned Dzhagdy Mountain Range, which comes from the west. Here in the north individual sections are known under special names: thus, the Duse-Alin', which in an arc surrounds the left source river of the Bureya (Levaya Bureya), and, adjoining the Duse-Alin' on the north, the Yam-Alin', which flows into the Dzhagdy Mountain Range. The Tam-Alin' and the Dzhagdy border on the north and the east the gold-rich area /250/ around the source and the upper course of the Selemdzha; while from the southern part of the Yam-Alin' a mighty massif, forming a watershed, shoves in toward the west between the Selemdzha and the upper Bureya. Here in the northern part of the Bureya Highland, where immense high plateaus unite in a narrow area, there also lie the highest elevations of the Bureya Mountain Range and also the highest elevations of the entire highland. The Yam-Alin' has several peaks which project 2,000 meters. Its highest point reaches 2,215 meters. Also the watershed massif between the sources of the Selemdzha and the Bureya has several gol'tsy, which are only a little inferior to the Yam-Alin' peaks and which project between 2,115 meters and 2,155 meters.

316 The area around the source of the Selemdzha is rich in gold and has gold-washing installations, which are in part mechanically run. But the remoteness of the region causes the very great difficulties

505 to the works which are directed by the state. The primary supply route is the Selemdzha, which is regularly traveled by steamers as far as Norsk, often designated as Norskiy-Sklad. And under favorable conditions the Selemdzha is even traveled as far as Selemdzhinsk.

conditions the Selemdzha is even traveled as far as Selemdzhinsk. 000
But then begins a land route which is 250 kilometers long and is 487
laborious to travel. At the end this land route reaches the high-lying gold fields with steep ascents.

From the mighty complex of the high plateaus, which surround 133
the area around the source of the Selemdzha, the highland gradually declines toward the south. The surface of the Bureya Mountain Range is only 600 meters high on the upper course of the Amgun and of the Tunguska (a left tributary of the Amur), and only individual gol'tsy rise to heights of 1,000 meters. The Amur Railroad crosses the mountain range in the Lagaraul Pass at a height of 452 meters, and on the Amur itself the highest mountains only reach a height of 200 meters. The mountains here come in a broad front directly to the river, which breaks through the Khingan-Bureya Mountain Range here between Pashkovo and Yekaterino-Nikolskoye in a narrow valley which is 150 kilometers long. The great masses of water are pressed together here by steeply declining, often bare rocks, which come together in places to form a narrow corridor with high, almost perpendicular walls.

The general impression of the Bureya Mountain Range differs little from that of the Zeya Highland. Here, too, the basic forms permit the plateau-shaped surface to be recognized, and projecting from this plateau surface are numerous gol'tsy. However, all parts of the mountain range here show greater effects of erosion, which undoubtedly goes back to the heavier rainfall. Almost all the rivers, at least in their upper courses, flow in narrow, rocky, deeply etched gorges as long as they remain in the sphere of the plateau-shaped elevations. Then the valley areas quickly widen, and, even though they are often still accompanied by steep, rocky slopes, the valleys extend between the gently inclined slopes of the swampy plateau. But also in the lower places there are still individual cones or summits sitting on the plateau.

The vegetation of the Bureya Highland is /251/ unusually 137
varied. The reason for this lies not only in the changing relief but also primarily in the fact that the elements of three flora regions meet here, namely the East Siberian, Okhotsk, and Manchurian flora regions. In the northern parts of the highland on the mountains and slopes at a height of 600 to 900 meters there are thick forests which consist primarily of Ayan spruce (Picea ajanensis) and fir with white bark (Abies nephrolepsis), with a small number of birches intermixed. The low temperatures, the cool fog, and the strong, damp winds which blow

137 in constantly from the sea in the summer, have given these forests a peculiar appearance. The branches are covered with long lichen, which hang down like beards, and moss grows on the stems as far as the boughs. A thick layer of moss also envelops the earth, and with every step water springs from the damp cushion. In the deeper places and also in the middle part of the highland, larches then appear as forest-formers, and the forests gradually become purely larch forests, and also fill the valley areas as far as the middle courses of the great rivers and press far to the south. The reason for this can be seen above all in the fact that the cold air masses flow down into the valleys and thus prevent the expansion of other types of trees. Only on the lower courses of the rivers flowing toward the south do deciduous trees set in. The larch forests which cover the bulk of the Bureya Highland are economically the most valuable.

316 The valley of the Niman was once among the most famous of the gold fields in the Far East. But the deposits are already exhausted. In their place the gold fields in the area around the upper course of the Bureya have now appeared, but these cannot compete in yield with those of the Selemdzha. The valley of the Bureya serves as the con-
505 necting path to the gold dressing installations. When the water level is good, the Bureya can be used by steamers for 345 kilometers as far as the locality of Chekunda, and occasionally even as far as Umal'ta. From Chekunda down the greater drops already work so strongly against water vessels that from here on the boats as a rule have to be drawn by
487 horses. The last part of the way then is traveled by car or with riding horses and pack horses. An extension of this route toward the east leads over a pass, which is more than 1,000 meters high, to the gold fields on the upper course of the Kerbi, a tributary of the Amgun, which already belongs to the lower Amur. This much-traveled old Bureya gold route has today for the most part lost the importance it once had, since rich deposits of molybdenum and especially of coal have been found in the valley of the upper Bureya and a railroad has been built there.

316 There is molybdenum in the valley of the Umal'ta, a left tributary of the upper Bureya. Here a great molybdenum works has been erected in Ust'-Umal'ta. The hard coal deposits fall into two parts, into the deposit on the upper Bureya and the Tyrma deposit, which are separated from one another only by tectonic occurrences with
491 succeeding erosion. For the /252/ opening up of these deposits a railroad line is being built from Izvestkovyy, which lies west of Birakan on the Amur Railroad. This new railroad line leads over the Bureya

Mountain Range to the upper course of the Tyrma and then follows this river to the point where it empties into the Bureya. The railroad had already been completed as far as Ust'-Tyrma in 1942. Since then the construction of this railroad, which now runs parallel to the course of the Bureya, has been continued via Chekunda to Umal'ta. With this an outlet has been created for Bureya coal toward the south to the Amur Railroad, but the waterway of the Bureya is also used to transport the coal away. The expansion of this waterway is being worked on. In addition, there is the fact that the Baykal-Amur Railroad also crosses the same region. This railroad leaves the Selemdzha at Norsk, crosses the Turana Ridge and reaches the middle course of the Bureya at Chekunda, to continue further over the Bureya Mountain Range to Komsomol'sk.

The construction of both these railroads in the sphere of the Bureya Mountain Range has above all an industrial significance. Next to coal, wood is the most important item for transport which this region can supply. In the traffic going the other way, the bringing in of food is probably the main task of the railroads. The Bureya also plays a certain role in this connection; for, according to various reports, continuous loads of grain go up the river during the period when it is navigable. The supplying of the new Bureya coal region must be assured from outside because the Bureya valley itself is very unfavorable for agricultural settlement. Everywhere here the Bureya has the character of a mountain river. Its valley between Ust'-Umal'ta and Ust'-Niman is up to 3 kilometers wide, but the river, which here is very wild, regularly floods a part of this country and causes extensive swampiness. From Ust'-Niman to Chekunda the right bank is steep and rocky; the left bank is, to be sure, level, but it is taken up by swamps which are difficult to travel. Below Chekunda as far as the settlement of Paykan the valley narrows, and on both sides the rocky mountains come right down to the shore. Only shortly before leaving the mountain ranges does the valley meadow widen into an area favorable for settlement. Thus the prospects for agrarian settlement in the area of the Bureya valley are not very good, and it will require long years of difficult cultivation work before the new coal mining region will be able to supply its own food.

If we survey the entire Bureya Highland, then, it can be determined that, apart from the spottily occupied gold regions in the north and apart from the Bureya and Tyrma valleys which are now filling up with people in a limited area, the other regions are as good as

361 uninhabited except for in the southern part. Heavier settlement in terms of area covered can be found only in the southern part of the highland, where a contiguous belt of settlements meets us both along the Amur River. While the belt of settlements along the Amur River is certainly purely agricultural, industrial activity is to be encountered along the railroad in the area of the Bureya Mountain Range. In Bira 316 hard coal is mined /253/, iron ore lies west of Bira in Kimkan, and farther on in the vicinity of the railroad there are known to be supplies of magnesite, manganese, and fluorspar. Gold is also there and is extracted from the gold streams of the Sutar valley. This sourthern part of the Bureya Highland belongs to the Jewish Autonomous Oblast. It will be discussed in context in the following chapter.

/Sketch Map of the Jewish Autonomous Oblast/

The Amur Plain

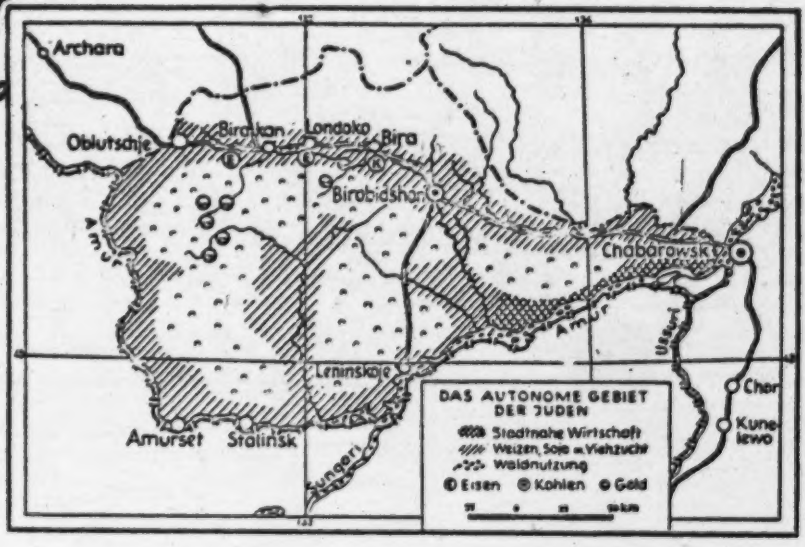
B3 This region extends from the eastern slopes of the Bureya Mountain Range to the shore of the lower Amur, and it forms a vast lowland covered with meadow steppe. This lowland is scarely inferior to the Zeya-Bureya plain in the luxuriant growth of grass. The mean height of the plain is 45 meters. On the eastern side of the Bureya Mountain Range there run parallel to this range some mountain ridges, which go beyond the 1,000 meter mark only in the rarest of cases, such as in the Badzhal'skiy Mountain Range.

The Amur plain is regarded as a continuation of the Ussuri-Khanka depression and represents a graben zone, which is set between the Bureya Mountain Range on the west and the Sikhote-Alin' on the east.

The plain itself is divided into the flood area, which can be from a few kilometers up to 20 kilometers wide, and the real plain, which begins with a step. Only the edge of the plain is cut up by the rivers; otherwise the plain is for the most part completely flat and toward the mountains goes gradually over into a hilly landscape. The country on the right bank of the Amur below the mouth of the Ussuri is more varied in form /254/ because of the spurs of the Sikhote-Alin'. This area is generally higher, and its landscape is gently rolling to hilly.

Even though the external picture of this area recalls that of the Zeya-Bureya plain, the Amur plain, nevertheless, differs because of its greater swampiness, which goes back in the first place to the damper

Sketch Map of the Jewish Autonomous Oblast:



Economy in the Vicinity of a City
Wheat, soy beans, with livestock
Exploitation of the forests
(E) Iron
(K) Coal
Gold

climate and then also to the great masses of water which flow together here in the Amur, Sungari, and Ussuri. With the relatively low position of the plain these great masses of water permit the ground water to rise very high to the water level of the rivers. The swampiness is also fostered by the old sea deposits lying in the ground of the plain. These sea deposits mostly form a solid, impermeable layer of loam. In addition there is a further difference, which lies in the state of development of the landscape. In contrast to the thickly settled, cultivated landscape of the Zeya-Bureya plain, the Amur plain is occupied only in its southern part and here, too, only in strips--along the railroad and along the Amur. The largest part, especially the area below Khabarovsk, is only sporadically occupied by settlements, which here completely disappear in the vast natural landscape. 133

After the break through in the Bureya Mountain Range, where the Amur is in places compressed to a width of almost 500 meters, the river expands to a true lowland stream. The banks become low and move back, numerous islands, often of great length, occur and divide the river into very many arms. Normal widths of 2 to 5 kilometers are no longer a rarity. The Sungari, which the Amur takes in here from the right, comes far from the south of Manchuria and brings warmer water to the Amur; accordingly, the Amur below the mouth of the Sungari becomes free of ice earlier and also remains open longer. Forty-five kilometers above Khabarovsk and the real mouth of the Amur, the Amur receives the Kasakevichevsk River, the first arm of the Ussuri coming from the south.

The Khabarovsk plain spreads out opposite the mouth of the Sungari and the Ussuri. Thick layers of loam form the base here and, through their impermeability, cause the area's great inclination toward swampiness. As a consequence of this, the areas near the rivers are the least suitable for agriculture, which occurs first on the somewhat higher, better-drained land. In contrast to the Zeya-Bureya plain, therefore, vast areas here remain swampy meadow steppes in their natural state and are used as meadows or hay fields. However, dry ridges and mountain groups also appear in the middle of the Khabarovsk plain. These ridges and mountain groups consists of Paleozoic layers (carbon) and are covered with forests. Their absolute height often reaches 500 meters.

The entire area within the arc of the Amur from Pashkovo to the mouth of the Ussuri belong to the Jewish Autonomous Oblast. Northern border runs north of the railroad line. The oblast covers 36,800 square 131

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the
361 name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000
[294] inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire
135 Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establish-
241 ment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is in-
234 fluenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large
[161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid
[39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking
[382] installation has been added to the older oil refinery in order to process
[508] the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there
[241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

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vegetables and the breeding of dairy livestock predominate.

Below Khabarovsk the Amur plain continues toward the north. Here the Amur first develops to its full size. At the city the height of the water level fluctuates between 23.97 meters and 40.20 meters (above sea level), and only a little below the city the river in places goes 10 to 20 kilometers beyond its normal borders when the water is high. In great windings, the river flows on, often making curves and loops of 10 kilometers and more where the direct route would take up only a fraction of that. Numerous old waters and arms follow the main stream. The Tunguska is formed by the two rivers, the Kur and Urmi, /256/ and flows into the Amur from the left. Until a short time ago its lower course was an arm of the Amur; the Tunguska, therefore, has the same river valley and, for the greatest part of its course, flows parallel to the Amur. When the water is high, the upper part of the Tunguska is connected directly with the Amur. Further down the elevations emerging there force the Amur into narrower paths. But again and again the Amur uses every imbedded plain to break up into numerous arms and to fill lake-like structures with its water. With the Kizi and Kada lakes the Amur comes within a few kilometers of the sea coast. Here the mouth of the Amur may once have been located, before an elevation of the ground cut off the exit and forced the masses of water to grope their way further toward the north through a mountainous-hilly country until, after taking in the Amugun, the water found its present way out. Kizi Lake, which is united with the Amur by a natural connecting canal, lies only 15 kilometers from the Tatar Strait and is separated from De-Kastri Bay only by low hilly country, whose greatest height is 155 meters. At this spot a canal from Mariinskoye on the Amur to De-Kastri Bay could shorten the path of the Amur to the sea by around 280 kilometers. This passage has been planned several times.

The Amur plain also continues in the same shape toward the north along the lower course of the river. However, the picture here is much more determined by the flowing waters and the imbedded lakes than in the Khabarovsk plain. In the vicinity of the river, however, the monotonous character is interrupted by elevations and depressions, which line the river. The elevations have the appearance of long extended hills and embankments and are often up to 10 kilometers long. They are old shore embankments, which mostly lie 14 to 16 meters above the normal level of the water and which, therefore, are no longer reached by the floods. These elevations are in part overgrown with

133 meadows on the river, otherwise they are covered with spotty clumps of grass. Where this grass is destroyed, the loose sand shows through, and the wind blows this together into dunes. The shores of the rivers are flat and predominantly covered with meadow, over which the [311] high water extends. The old shore embankments are of greatest importance for human settlement; the broader ridges are as a rule plowed up and used for vegetable gardens, while the areas which become flooded serve as meadows or are used as hay fields. Now and again the entire plain is narrowed down by approaching mountains, or the plain widens to a great breadth with the neighboring depressions adjoining it. In such an area, in wide, swampy surroundings, lies the very flat Lake Bolon' which is 1,200 square kilometers and which is connected to the Amur by a broad water stream. The water level of the lake follows that of the Amur, and when the water is high even a backward flow is to be observed. At Komsomol'sk the hilly mountains come right down to the river on both sides and force the river into one continuous bed. Here ends the contiguous line of the real Amur plain with its magnificently flat relief, /257/ and an irregularly formed landscape begins. Nemerous rows of hills and chains of mountains with heights of up to 500 meters, indeed, even up to 900 meters, make the general picture more lively. The Amur again and again gains in area and widens often like a lake with numerous islands in the broad valley areas and forms in its neighborhood standing water in the form of long lakes in individual basins and old river beds. Despite this, the overall character of the far more broken up Amur plain is determined by the tributaries, which flow into the Amur from both sides in long, often curved, wide valley areas and which increase still more the degree of dividing up of the country. First to be mentioned in this connection is the valley of the Gorin, which extends into a broad depression in the hinterland and which conceals there the big [135] Lake Evoron. Further down are the plains of the Limuri and Pilda; the area around the upper course of these rivers is known for its gold sands. 133 Finally there is the extended valley of the Amgun which is more than 137 800 kilometers long. The general landscape picture changes its face but little toward the north. Meadow steppes, overgrown with high grasses, are also still typical here, even though the ground becomes ever damper toward the north and the swampiness increases. The same applies also to the appearance of broad-leaved deciduous trees within the forested areas; these forests represent characteristic mixed forests on the lower hills and mountains. In the direction of the

Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has re- [161] ceived its name. By 1939 it already numbered 70,000 inhabitants, and [376] and today its population is estimated to be more than 150,000. The city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [377] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire 361 496 area around the lower Amur. Already several years ago the city was connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

133 lie the main fields for producing food in the entire Ussuri country. Thus we can contrast the natural landscape of the Sikhote-Alin', which for the most part is still untouched, with the cultivated landscape of the Ussuri-Khanka depression.

/260/ The Sikhote-Alin' belongs to the more recent peripheral formations of the Asiatic continent and represents the elevated eastern edge of a sunken land step. It lies between the Sea of Japan and the Tatar Strait, on the one side, and the depressions of the Khanka Lake, of the Ussuri, and of the lower Amur, on the other side. The Sikhote-Alin' consists of a series of up to eight parallel mountain ridges which stretch toward the north-northeast. The mean height ranges between 700 and 1,000 meters. In the northern section individual heights reach up to 1,300 meters, in the area around the sources of the Bikin and the Iman some mountains project 1,500 meters, and in the south in the area around the upper course of the Ulukhe the highest elevation to date has been measured as 1,845 meters. According to a recent publication (Suslov), the highest mountain has been determined now to be the Golets Komarov in the area around the source of the Koppi. This mountain has a height of 1,940 meters.

The watershed between the Ussuri and the ocean is strongly inclined toward the latter. In this the watershed chains are not always the highest. The area around the source of the Ussuri and also that of its largest tributaries, the Iman and the Bikin, lie not far from the coast. In the central and northern section the conditions are much more complicated. There is no mountain range which is the bearer of the watershed; rather the watershed changes constantly and irregularly from one ridge to another. Often it occurs that rivers which flow into the sea or into the Ussuri-Amur have their origin on the opposite side of a mountain chain, move first in the direction of the long axis of the Sikhote-Alin', then reach the next valley through a breach until--often after several cross passages--they decide on a final exit from the system of the mountain range. Decisive for the peculiar course of the rivers is not only the relief but also the rock. Both are the cause of the broken lines of the courses of the rivers, which are characteristic of all of the Sikhote-Alin'. Accordingly, the rivers also often change their character. Following a quiet course are breaches, gorge-like valleys, waterfalls, river rapids, and then shortly thereafter the river will again flow quietly and calmly for a while. Thus there is generally a very unequal and irregular hydrodrographical picture.

The entire interior is taken up by contiguous mountain massifs, which extend without interruption as far as the ocean, where they break off at the coast with steep rock steps. The heavy weathering effects of the raw and damp climate and far-reaching powers of erosion of the rivers, which are short but flow down to the coast with great drops and whose erosion basis has changed several times because of vertical movements, have so heavily cut up and changed the ridges near the coast that from the sea these appear to be a high mountain range. The interior itself, however, is monotonous. If one looks out from one of the higher mountains, approximately in the sphere of the watershed chains, the eye encounters a vast series of more or less long chains, stretching predominantly in a north-northeasterly direction. /261/ These chains consist of an almost unending series of accumulations of lower peaks which rarely appear bare and mostly are covered with thick forests. Nowhere is the climatic snow border reached. Where snow lasts until August, indeed, even until September, it occurs in the protection of depressions under the crown roof /Kronendach/ of the taiga. Often, however, the regularity of the mountain chains disappears. Cross-bars connect the individual parts, which stretch toward all four points of the compass. The landscape, however, has a different face where, as in the environs of the Soviet Harbor (Sovyetskaya Gavan') or in the central region on the upper Bikin, basalt and other eruptive elements have poured forth and with their effusions have formed almost level surface forms which often cover many square kilometers. Here the valleys are deeply etched like canyons. The walls decline steeply, often in steps. The high plains break off suddenly, so that, when one is on a high plain, one can for some distance overlook a narrow valley until one unexpectedly stands on the edge, from which the steep wall forms a sharp decline, descending not uncommonly a hundred meters and more. But in the other sections steep projections are also not lacking since the rise to the passes and high plains is mostly very difficult, less so from the west but very difficult from the coast.

Generally striking are the forms of destruction, in which the effects of the monsoon climate are demonstrated. These effects are especially prominent in the south. The effects of the monsoon climate are expressed particularly in the formation of the cone-shaped mountains, which are very numerous in the Sikhote-Alin'. Mostly, however, the mountains are cores such as we find on the Murayev-Amurkiy Peninsula where the cores consist of porphyry and its tuffs and project as individual

133 mountains from the Lower Jurassic sediments. The heavy effects of erosion have been furthered by the rapacious deforestation in the past, which has denuded of forests all sections of the mountain range in the vicinity of the cultivated zone. Also the typhoon-like storms which rage over the southern part of the Sikhote-Alin' every year and often destroy the wood supplies of whole areas, contribute to the fact that the floods of rain can attack the slopes more easily, and thus the dissolution of the forms increases. Worthy of note are the great boulder slopes and stone slopes. Many may well represent prehistorical forms and may stem from earlier climatic periods of a different type from today's, but their formation is also essentially determined by the heavy erosion and the great dampness of the present-day monsoon climate. Often, in the regions around the upper courses of rivers, valleys are to be observed which are torn out as narrow, deep gorges and which have steep slopes which are fully covered with stone heaps. Often a footstep is enough to cause these stone heaps to precipitate down into the valley. Many valleys are notorious for their falling stones and their landslides, and not uncommonly it occurs that narrow gorges are entirely filled up with stones and broken wood. In the regions around the upper courses of the rivers, therefore, the springs and brooks very frequently flow invisibly under rock ruins and come to the surface only after a rather long course in order then to dig themselves a bed.

The forms of the valleys change greatly and show all stages of their development /262/ from narrow gorges to flat valleys which are kilometers wide. Only glacial forms are lacking, for the Sikhote-Alin' was not glaciated. Since the basalt effusions are more recent than many of the old valleys, many of them were dammed up by the basalt streams and then again broken through. Because of the elevation and the retrogressive erosion, sloping valleys and graded river mouths /Stufenmündungen/ are frequent phenomena. The main valleys are disproportionately wide and in their erosion may not keep pace with the recent elevation. Therefore, the lower courses of the rivers as a rule also have sharp drops, often sharper than in the upper courses. Others are extensively heaped up and swampy. This is also a consequence of the very irregular passage of the water, which results from the monsoon climate. The main water veins cannot contain the quantities of water flowing together from hundreds of tributaries during the rainy period, and these main water veins then overflow the entire valley area with great pressure and can become a catastrophe for the

people there. All settlements on the lower courses of the rivers coming 133
from the Sikhote-Alin' suffer in such floods. The harsh continental winter brings the appearance of frost such as is usual in Siberia. The water which is pressed out from rivers through the ice-covering, freezes again and again and makes formations of ice on top of ice, which can become kilometers long. If the water flows under pebble slopes, then the rock fragments are covered with concentric layers of ice, which are up to 10 centimeters thick. The boulders and pebbles then are entirely frozen in, but when the thawing weather comes, they fall into all the heavier movement (Arsenyev).

Despite the fact that the forms vary greatly in detail, the large, round, equalized lines of the mountain range nevertheless remain predominant in the overall impression.

The general forest covering contributes to this. Despite the 137
careless cutting down of trees in the border regions, this forest covering with its wealth of wood, especially of valuable deciduous trees, represents a still unexploited treasure of the Sikhote-Alin'. But the forest is not of the same quality everywhere. The great dampness hinders growth especially on the coast, where the trees are often crippled and covered with knots. The underwood is then all the thicker, and the natural wilderness is all the more difficult to penetrate. In the interior the forests become swampy easily, and even on the watersheds marshes form.

The picture of the present-day coast owes its origin to the old 133
forms of a heavily cut-up landscape submerged under the sea. Striking is the difference between the marked ria coast on the south and the more compensating coast on the east which has only a few bays. The causes of this morphological phenomenon have been investigated in great detail by Romer (168) and Nowak (134). They show first that

168. Romer, E. Bericht über geographischen Arbeiten im Gebiete des Sichota-Alin-Gebirges. /Report on the Geographical Works in the Area of the Sikhote-Alin' Range/ Anzeiger de Akademie der Wissenschaft Krakow, /Review of the Academy of Science in Krakow/ Series A. Krakow, 1913.

134. Nowak, J. Wissenchaftliche Ergebnisse der Expedition nach dem Sichota-Alin. /Scientific Results of the Expedition to the Sikhote-Alin'/ Krakow, 1913.

13 the explanation of the older Russian scientists, according to which the strips of the layers and tectonic disturbances alone are the causes, is not tenable. In addition to a varying resistance /263/ capacity on the part of the rock (Romer), the different angle of inclination of the submerged land above all is made responsible for this phenomenon. The line where the water is 200 meters deep runs at a distance of 15 to 25 kilometers from the east coast, but on the south coast, west of Cape Povorotnyy, this line lies at a distance of 125 kilometers from the coast. The average drop on the east coast is 8 to 13 percent and exceeds by more than fivefold the drop on the south coast which is 1.6 percent. With the same power of the surf, therefore, the former ria coast on the east is completely destroyed, leaving only the slight remains of today, while the southern coast has been able to preserve itself. The varying strip direction, therefore, has only a subsidiary role, the essential reason being the varying submergence of a heavily divided landscape. This submergence occurred before the effusion of the lava coverings. The elevated basalt lava in the vicinity of the coastal locality of Sovyetskaya Gavan' is covered with sea deposits. The elevation here is very young.

Recent post-Quarternary vertical movements play the principal role in the creation of the coastal forms in detail, especially in the creation of the valley forms through the displacement of the basis of erosion. These post-Quarternary vertical movements are characteristic of a great part of the east Asiatic coast. These movements are indicated by beach stones, terraces, surf channels, old shore embankments, and layers with recent mussels at the most varied heights. According to the research of Dunikowskij (57) and Romer, there are

> 57. Dunikowskij, E. H. "Stratigraphische Geologie des Sichota-Alin" /Stratigraphical Geology of the Sikhote-Alin'/, Wissenchaftliche Ergebnisse der Expedition nach dem Sichota-Alin /Scientific Results of the Expedition to the Sikhote-Alin'/. Krakow, 1913.

five phases of these movements: 1. elevation of over 200 meters above the present surface of the sea; 2. lowering by 500 meters; 3. elevation by 150 to 200 meters; 4. elevation by 100 to 150 meters; 5. very recent lowering. The last phase of the lowering, however, touched only the extreme southern coast. Even at present this lowering has still not been concluded. On the east coast, on the

other hand, an elevation still appears to hold sway at present. Many 133
rivers emptying into the sea show delta formations.

As a consequence of the southern current running along the coast, numerous narrow tongues of land separating small bays from the sea have formed. All these tongues of land point toward the south. The deltas mostly lie left of the river courses, which, therefore, show a wandering to the right and which also dig under the shore on the right side. The sea current is weaker and irregular on the southern coast, which is heavily broken up; thus tongues of land here can run in all directions.

The most important bay on the east coast is Ol'ga Bay. It was discovered in 1787 by La Perouse and forms one of the best natural harbors on the coast. Lying off the bay are the small, rocky Chikhachev Islands. The bay itself has a diameter of 3 kilometers and is on the mean 25 meters deep. Once it was at least three times as large and reached much more deeply into the land toward the west. Today the valley areas of the rivers emptying into the bay become swampy. When there is a strong east wind, a backward flow can even be determined. The old marine abrasion terraces are very well preserved on the mountains at a height of 25, 30, and 120 meters. The low mountains surrounding the bay consist of granite, quartz porphyry, and sedimentary rock and contain above all iron /264/ in addition to lead [135] ore containing copper and silver. This iron is magnetite with an iron content of 50 percent; the iron is being mined here. The harbor locality of Ol'ga has several thousand inhabitants. In the hinterland of the bay [261] Russian peasant settlers have made their appearance.

The Tetyuke Bay has a greater economic importance. Here, 316
35 kilometers from the coast, is the most important zinc-lead-silver 504
ore in the Far East. A narrow-gauge railroad connects the mining installations and the preparatory installations with the harbor, which has gotten modern loading equipment very recently. The harbor locality has several thousand inhabitants. Here, too, there are agricultural settlements in the hinterland.

Between the two above-mentioned bays is a third bay, the 133
Vladimir Bay. It is surrounded on all sides by granite mountains which are up to 225 meters high. The bay has a depth of up to 12 meters. Fresh water lakes and swamps enable us to recognize the former larger expanse of the bay. Two projecting rocky peninsulas enclose the bay. Vladimir is known for its installations for the extraction of iodine from seaweed.

133 361 Of the more favorable bays on the northern part of the Sikhote-Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has developed quickly into a city with more than 20,000 inhabitants. It has also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

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361 For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

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133 361 The real, vast mountain massif of the Sikhote-Alin' is very sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Isiubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

137 Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

regions, the Sikhote-Alin' can still, as always, be designated as rich in forests. Planned exploitation of these forests has still not been begun at all. Of still greater significance for the future are the vastly rich resources of the ground. The southeastern part of the Sikhote-Alin' appears to be a true mine for the latter. However, a large part of these supplies has still not been once sufficiently investigated. The prospects for development along mining and industrial lines are always completely favorable, only an opening up in terms of transportation must pave the paths to the sources.

The extreme southern part of the Sikhote-Alin' is generally relatively thickly populated, and it is also better opened up from Vladivostok on. It already belongs more to the cultivated zone, and economically, too, it is so closely connected with the cultivated zone that it will be treated in connection with the Ussuri-Khanka depression.

The Ussuri-Khanka Depression

The western foot of the Sikhote-Alin' is, for its entire length, accompanied by an extensive depression, which stretches from the Gulf of Peter the Great to the mouth of the Amur, thus covering more than 1, 300 kilometers. The Ussuri-Khanka depression forms the larger, southern part of this long depression and has a total length of 700 kilometers from the southern end to the mouth of the Ussuri. As compared with the Sikhote-Alin', this depression represents the sunken part of the land step and is accompanined on the west by the step, again elevated, of the east Manchurian mountain range. In the Tertiary period, the entire depression, as Ivanov (83) assumes, was flooded by the sea, and

83. Ivanov, D.V. The Sikhote-Alin' Ridge /in Russian/. Petersurg, 1896.

thus the Sikhote-Alin' projected from the sea as a long, narrow island. Proof of this view has been attained up to now only for the southern part of the depression.

The bulk of the depression belongs to the drainage area of the Ussuri. A flat watershed, which is scarcely perceptible in the countryside and which has an absolute height of only 190 meters above sea level, separates this section of the depression from that section of the depression whose waters drain off toward the south, i.e., the river

133 area of the Suyfun.

The Usssri comes from the southern part of the Sikhote-Alin' and arises from two source rivers: Daubikhe and Ulakhe. It flows first entirely in Russian territory, and, at the mouth of the Sungacha, which comes from Khanka Lake, it reaches the Manchurian border from where it then serves as the border river until it empties into the Amur. On the mean it is more than 420 meters wide in the lowland and flows languidly in a winding course with a mean velocity of only 1.5 kilometers per hour. The lower course of the Ussuri is often divided into several arms and becomes more than 1 kilometer /266/ wide. Numerous shallows hamper shipping, but the Ussuri is regularly traveled as far as Iman, where the steamer landing place is connected with the Ussuri Railroad by a railroad branch which is 1.5 kilometers long. Under favorable water conditions the Daubikhe is even traveled for a length of 100 kilometers as far as the locality of Lazarevo. However, the flow of water is generally very irregular, and also the summer high water changes greatly. Fluctuations in the water level occur, in which there is a difference of 10 meters between the extremes. Larger downpours of rain often cause the river to rise very rapidly, and thus unforeseen floods occur and cause much damage. The figures of Berg (27) show what great quantities of water can come

27. Berg, L. S. Landshaftno-geograficheskiie Sony SSSR /The Landscape-Geographical Zones of the USSR/, Part I. Moscow, 1931.

[132] down in such violent downpours of rain as are usual during the summer monsoon. While in Voroshilov, the former Nikol'sk-Ussuriskiy, the normal mean rainfall for September is 105 millimeters, a single, mighty downpour of rain in one day brought the rainfall for that September to 115 millimeters. On August 9-10, 1927 in the same place 122 millimeters of rain fell within 22 hours during a cloudburst, which was connected with a typhoon-like storm.

The Ussuri depression extends on both sides of the entire course of the river, and in the north the depression melts into the Amur plain. The Manchurian side appears in this respect to be disfavored in comparison with the Russian side. The Manchurian side lies lower, and its swampiness extends over a much greater area than that of the east side. But here, too, a zone, which is exposed to floods, which is very swampy, and which is little suited to agriculture extends along

the river. However, in contrast to the western side, the eastern side [133]
is narrow, and only somewhat wider at the mouths of the tributaries. On the other hand, the depression is also completely lacking in places, i.e., where the spurs of the Sikhote-Alin' go right down to the river. However, not only do these spurs interrupt the depressions, but they also often interrupt the hills and ridges which emerge from the flat alluvial plain and which are drier and as a rule have cultivated fields, villages, and forests. Therefore, there are only a few settlements [361]
along the river in the areas threatened by water. The real cultivated zone, which begins in the north already at Khabarovsk, always extends, for this reason, at some distance from the river bank along the country lying higher. The Ussuri Railroad also follows the higher land. Here [311]
the forest landscape and the forest steppe landscape have been cleared over an area 100 kilometers wide and have had to make way for the cultivated land, which extends in a considerable width especially in the regions around the lower courses of the Khor, Bikin, and Iman. The most important localities in these three depressions are Kondratyevka on the Khor, Bikin, and Iman, all three of which lie at the point where [36]
the above-mentioned rivers are crossed by the railroad. In the south the Ussuri depression flows together with the agriculturally important Khanka depression.

Khanka Lake lies 69 meters high and is 23,000 square kilometers in area, with its greatest length being 80 kilometers and its width being 40 to 85 kilometers. A narrow, sandy tongue of land in the north separates it from the so-called Little Khanka Lake. /267/ /Sketch Map//268/ South of this tongue of land the border crosses the lake, giving approximately a fourth of the lake to Manchuria. In the east the Sungacha forms the border. Khanka Lake is generally extremely flat, its greatest depth being 10 meters. It is surrounded by vast swamps and moors covered with reeds, and it is very much in the process of being filled up with sand. The western shores are formed from Tertiary loam and are, therefore, hilly and irregularly formed with numerous bays and peninsulas. Here to the west of the lake lie the regions, which, of all the areas near the lake, are most favorable for agriculture. The flat moors and swamps which otherwise surround the lake extend to the north for 10 kilometers, and toward the east and south they even extend 30 kilometers from the lake, thus indicating the one-time size and position of the lake. Where the swamps surrounding the lake are becoming somewhat drier, they are turning into meadows with high grass, thus giving a similar appearance to that of the Amur prairies of the Zeya and Bureya.

Sketch Map

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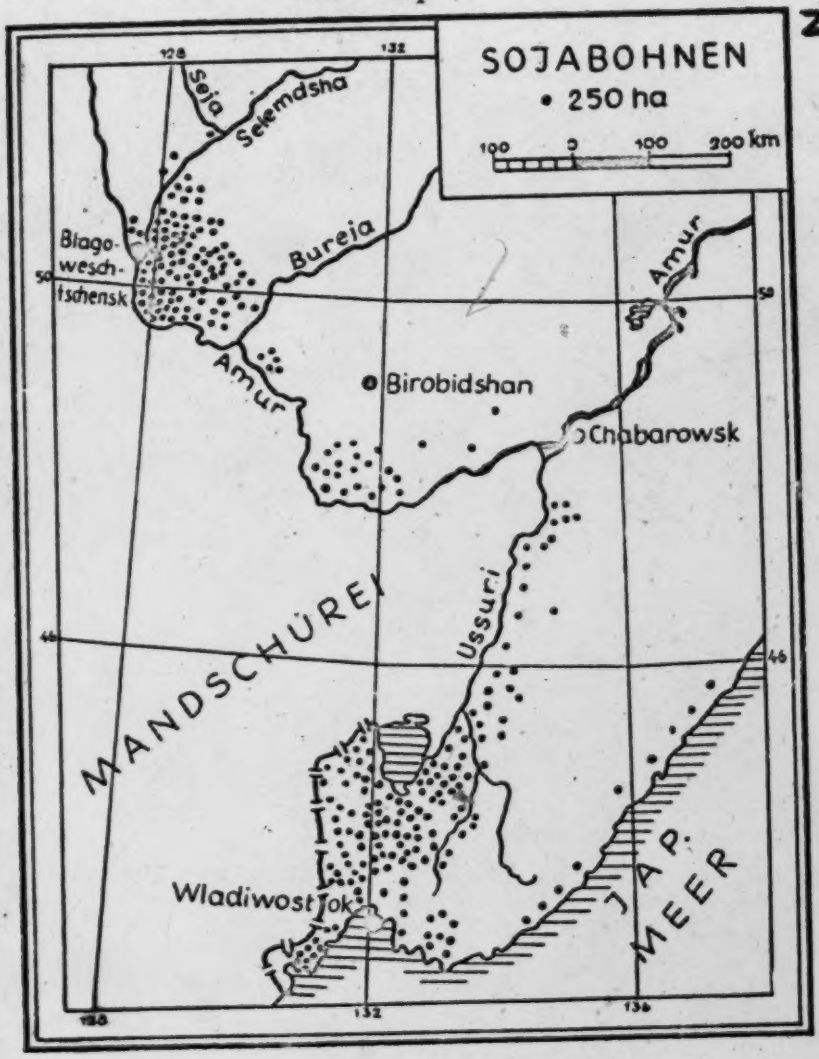

● Cultivation of Soya bean Plants

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the Zeya and Bureya. Also the soil both in the Ussuri depression and also in the Khanka lowland is similar to that of the Amur prairies. Here, too, it is not black earth, as is still often reported; rather there is in the main muddy moor soil in the vicinity of the lake; this in turn is surrounded by a broad zone of semi-marshy meadow soil, and following then is weak podsol earth. The last two zones are cultivated almost everywhere, and the soil there can in every respect compare with black earth in terms of its yield. The zone of settlements, therefore, begins to the east and southeast of Khanka Lake but at some distance from the lake. If here, as in the Ussuri region, agriculture has to struggle with difficulties, the reason for this does not lie in the soil but rather in the climatic conditions, above all in the heavy summer rainfall. The winter is very cold and brings only a very thin covering of snow, and thus the ground freezes to great depths. Berg (27) states that at Voroshilov the ground freezes to a depth of up

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27. Berg, L. S., Landshaftno-geograficheskie Zony SSSR /The Landscape-Geographical Zones of the USSR/, (Moscow, 1931), Part I, 1. 372.

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to 1.8 meters and at Grodekovo the frost even penetrates to depths of up to 2.4 meters. The planting of winter grain is, therefore, not advisable, nor is the planting of clover and lucerne advisable. The cultivation of winter crops is, therefore, always a risk. Further toward the south, in the Suyfun depression, winter rye is cultivated without danger. As a consequence of the deep penetration of the frost, the ground thaws out only late in the year. There is, however, no permafrost in the entire Ussuri region. The planting of summer wheat begins in mid-April to May, and the harvest begins in mid-August. Oats are sowed two weeks later, but are harvested at the same time as the wheat. The sowing of millet is done still later; the harvest, however, occurs only in the middle of September. The shortness of the time between the sowing and the maturity indicates the generally favorable conditions for the flourishing of the vegetation. The European types of grain suffer now under the dryness and under the strong winds during the sowing period, while during the summer they suffer from the great dampness, which makes fructification in the blooming period uncertain when it rains and which also endangers the maturing at harvest. All the better do the native cultivated plants /269/ flourish. With appropriate methods of cultivation European

cultivated plants also flourish with great success. Very recently new sowing and cultivation machines have been employed by the Soviet in the entire Far Eastern region, which is damp in the summer. These machines take account of all the conditions of that area. In the expansion of the cultivated areas devoted to soy beans, rice, beans, millet, etc., it has been shown that there has been more conversion to these in more recent times, following natural conditions. The noxious fungus, which prefers to attack the European types of grain, such as wheat, barley, and oats, has already been pointed out. This grain disease occurs in those damp warm regions in especially rainy years. As Arved Schultz (181) has observed, it is very characteristic

181. Schultz, A. Das Ussuri-Land /The Ussuri Country/. Königsberg, Prussia, 1932.

that the fields of the Korean and Chinese peasants are attacked less than the fields of the Russians. There must, therefore, also be some reasons for this. In addition the fight against the Fusorien, of which a total of 22 types have been determined to date, has been taken up by the Soviet.

In contrast to the little populated eastern and southern sides of Khanka Lake, the Tertiary hilly country to the west of the lake is thickly populated and is among the best agricultural regions. A railroad line, which is 127 kilometers long, leads from the Ussuri Railroad into this region and ends right on the border in Turiy Rog at the northeastern end of the lake. On the eastern side of Khanka Lake, the cultivated zone, which continues from the north without interruption, follows the Ussuri Railroad in a broad line, and with broad spurs into the valley of the Daubikhe and Ulakhe, the cultivated zone also penetrates toward the east into the mountain range. South of the lake the cultivated zone takes up the entire area from the Manchurian border to the mountain spurs of the Sikhote-Alin' and extends in an area of almost equal width via the Suyfun depression toward the south to the coast, where on the west side of the Bay of Peter the Great it extends farthest to the south in the coastal plain.

The watershed between the Ussuri and the Suyfun is flat and scarcely makes an appearance morphologically. The Suyfun itself comes from Manchuria and crosses the border almost exactly at 44° latitude. Then it turns immediately toward the south to the sea. The valley area of the river is level and is accompanied on both sides

133 by a peaked series of hills, which are 50 to 100 meters high. However, individual hills all appear on the floor of the valley, from which they rise with very steep walls. Adjoining this area to the east is a gently rolling and irregular Tertiary hill country, which acts as a transition to the spurs of the Sikhote-Alin'. South of Khanka Lake and also in [137] the Suyfun depression numerous small oak forests have been preserved which give the picture of the landscape a varied and attractive impression. As a consequence of the good drainage the best agricultural land in the area is to be found in the Suyfun depression. But also in the Tertiary hill country agriculture is making good progress. Here are the /270/ most thickly populated sections of the Maritime Krai, in which, however, the entire region near the coast of the Bay of Peter the Great must be included.

563 342 241 Great Russians above all are settling in the Ussuri depression. Their weathered, colorless log houses which are built of wood, are typical of the settlements in this area. Striking, however, in contrast to their homeland are the relatively flat roofs, which probably indicate the slight covering of snow which they have to bear here. Wheat, oats, and barley predominate in the appearance of their fields, but, in addition to corn, native plants, such as soy beans and perilla, are also appearing more and more. Ukrainians are the predominant settlers in the Khanka depression. As has already been indicated, this is based on historical reasons, since people from the Don above all were used in setting up the Ussuri Cossack formation of 1862. But it is still remarkable that it is Ukrainians who are in the majority in this almost treeless province. The bright color of their whitewashed mud houses dominates the settlements, and between the wheat fields corn comes strongly into the foreground. The Ukrainians here have also taken over for themselves the cultivation of sugar beets, just as they have in their homeland back in Europe. But, in addition, the yellow of the mud huts of the Chinese and Koreans also appears already in the individual settlements and in the village communities. These huts are often enclosed by the same mud walls; and in the flat, dammed-up fields there appears the light green of rice plantings, which are predominant in the damp area to the south of Khanka Lake. Further in the south toward the coast there is no longer a clear separation, but along the coast the Koreans increase. They often dress like Russians, but still they are more often dressed in the traditional white of the native clothing.

The breeding of livestock is pursued in the entire area: cows,

The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

Sketch Map:

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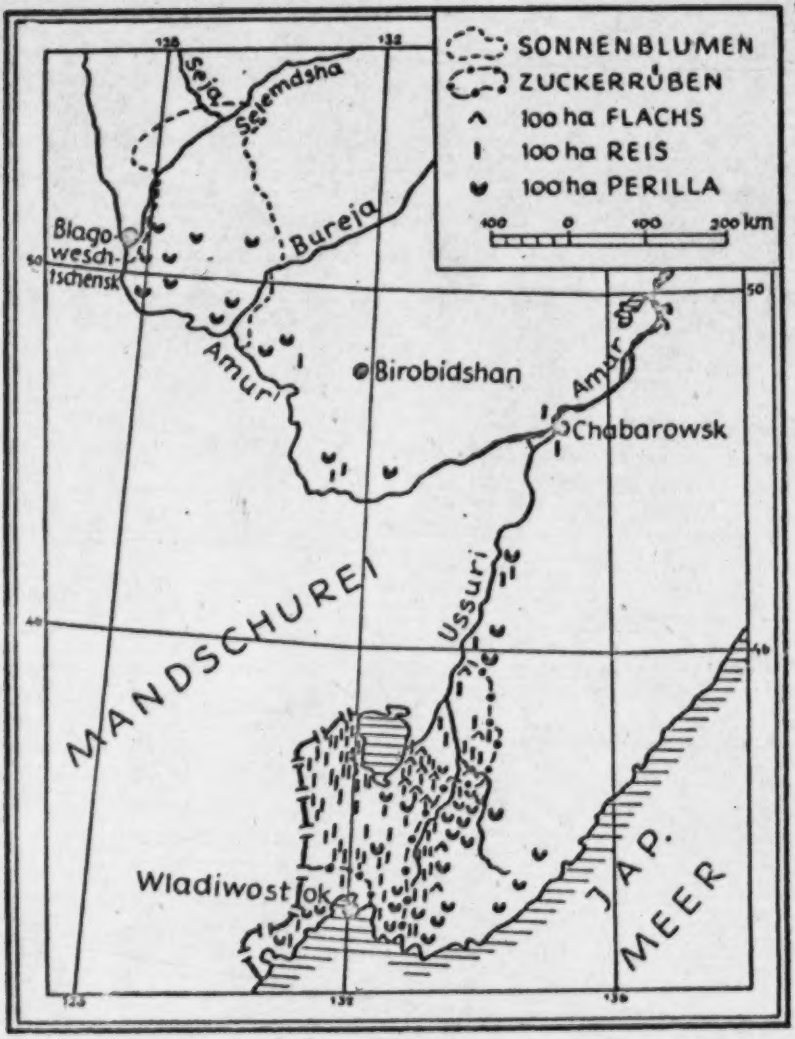

sunflowers
sugar beets
100 hectares of flax
100 hectares of rice
100 hectares of perilla

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361 low ridges of the Sikhote-Alin' and enters the Muravyev-Amurskiy Peninsula and finally reaches Vladivostok, the main town and the most important harbor of the Soviet Union on the Pacific.

Vladivostok was founded in 1860. In 1872 the base of the Russian Pacific naval fleet was transferred here from Nikolayevsk on the Amur, and since then Vladivostok has been the center of the military power of the land on the Pacific. Economically, however, the city developed only slowly. In 1882 only 5,000 persons lived in the city. At the same time somewhat regular shipping between Vladivostok and the Black Sea harbors of Russia was taken up. However, the city's rise to become the economic center of the land began only after the construction of the Ussuri and Manchurian Railroad. [504] Through this railroad Vladivostok first became an important Pacific harbor, especially in transit shipping, and in this it is a harbor for all of northern Manchuria. The more recent development of the city into an industrial city has also kept pace with its development into [161] an important harbor. In 1897 the city had a population of 21,000 persons; in 1914 it was 59,000; in 1926 it was 107,980; and in 1939 it was 206,400. At present it is more than 300,000.

361 138 504 The city lies on the well protected and deep bay of the "Golden Horn" at the southern end of the Muravyev Peninsula opposite the large Russkiy Island, which is richly divided up. The peninsula and the island are separated by the "Eastern Bosporus," which extends from the Amur Bay in the west to the Ussuri Bay toward the east. The harbor is unique and one of the best natural harbors in the world, as the designations already indicate. The "Golden Horn" penetrates from the south into the Murayev Peninsula and bends then almost at a right angle toward the east (see map). /273/ /Sketch Map of Vladivostok and the Southern Coast/ 274/ The north-south section forms the outer bay and is 3 kilometers long; the west-east section constitutes the inner, harbor bay and is 3.2 kilometers long. The width of the "Golden Horn" is 800 to 1,000 meters; the depth in the interior is 10 meters, and at the entrance of the bay it is 28 meters. Mountains surround the bay and protect it from the cold northwest and west winds. Mountains also rise 50 to 100 meters on the Shkota Peninsula, which separates the outer bay from the Amur Bay. Nevertheless, 361 504 the harbor freezes for three to four months every year, and throughout the winter three ice breakers are in uninterrupted service to keep the harbor and the entrance free of ice. The outer bay and the western part of the inner bay above all belong to the commercial harbor, while

[cf. cat. 116, p. 317 -- Analyst]

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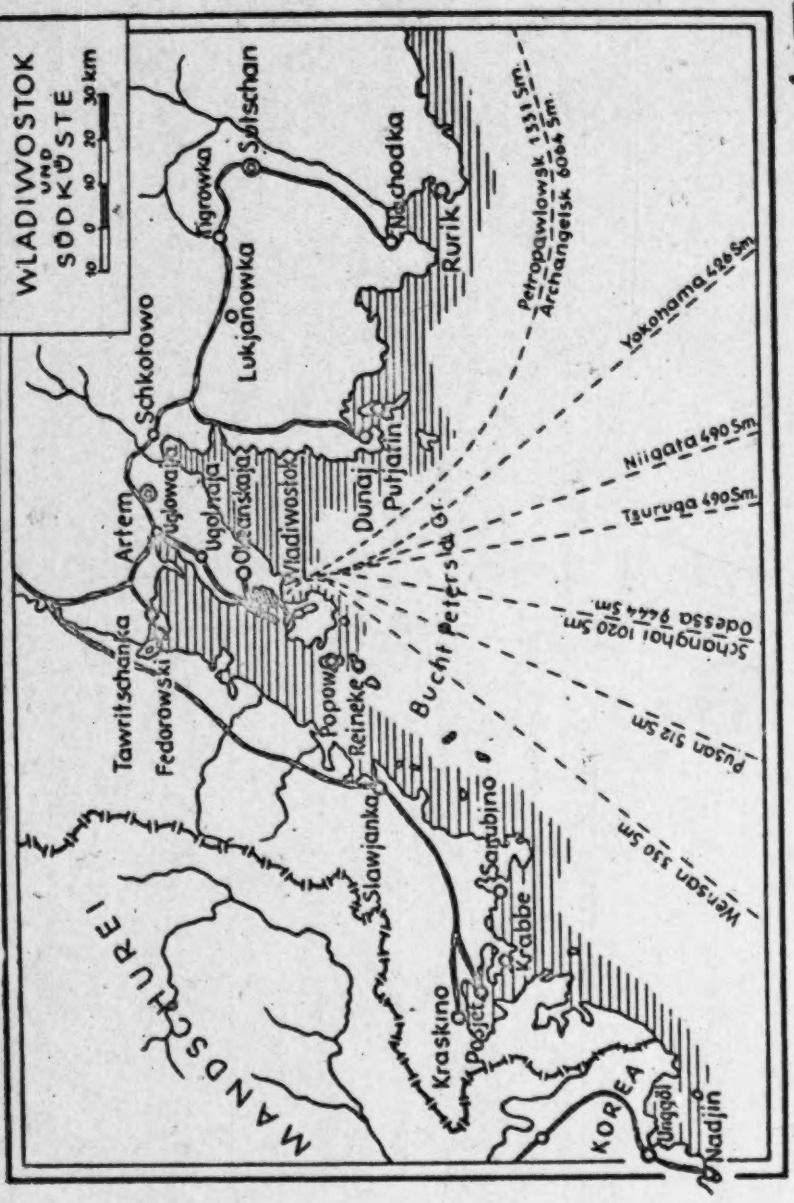

Sketch Map of Vladivostok and the Southern Coast

the section farthest in of the inner bay has been built up as a naval harbor and is closed to commercial ships. Additional harbor installations lie on the "Eastern Bosporus" and on the outer side of the Shkota Peninsula. In detail the harbor houses the following installations: 361 504

1. Krestovaya Harbor: It stretches at the foot of Krestovaya Mountain, which is 94 meters high, and has quays which are 486 meters long. This harbor is used especially in the winter since it is easiest to keep the waters open here.
2. The Egersheld, which is at the same time a quarantine harbor and which has a quay almost 950 meters long. Here the most active life prevails in the summer. This harbor is specially built up for the turnover of grain, and it has the most modern loading equipment and granaries.
3. The Harbor of the "Voluntary Fleet" (Dobrovolnyi Flot). It received its name from the Organization of the "Voluntary Fleet," which was founded in 1870 and which was the first to take up the task of connecting the mother country with the Far East.
4. The Customs Pier and the so-called "Wide Mole," which takes up the northwestern angle of the Golden Horn.
5. The Commercial Pier with the "Wide Pier" (Shirokiy Pir) on the southern side of the bay. This has extensive track installations and the largest storehouses. The quay installations are 1 kilometer long.
6. The Wood Harbor, which lies somewhat farther south on Cape Churkin.
7. The Ussuri Railroad Harbor on the western side of the Shkota Peninsula. This has extensive installations for oil and petroleum.
8. The Semyonovskiy Bazar, which likewise lies on Amur Bay. It serves coastal traffic predominantly.

All the quay installations together have a total length of more than 4 kilometers, and the network of tracks, which span the harbor and all its installations, is 335 kilometers long (1937). From 1933 to 1939 there was a further building up of the harbor, and thus it is in a position to handle an annual turnover of 4 to 5 million tons. In the first period of the development of Vladivostok, the supplying of water caused some difficulties. But these have now been overcome by means of a large water storage installation on the /275/ /Sketch Map of the Harbor of Vladivostok/ /276/ so-called "Second Little River" (Vtoraya Rechka) and by means of the filtering installation, holding 100,000 tons, on the inner edge of Ulis Bay, into which Lipovyy Brook flows. 361 312

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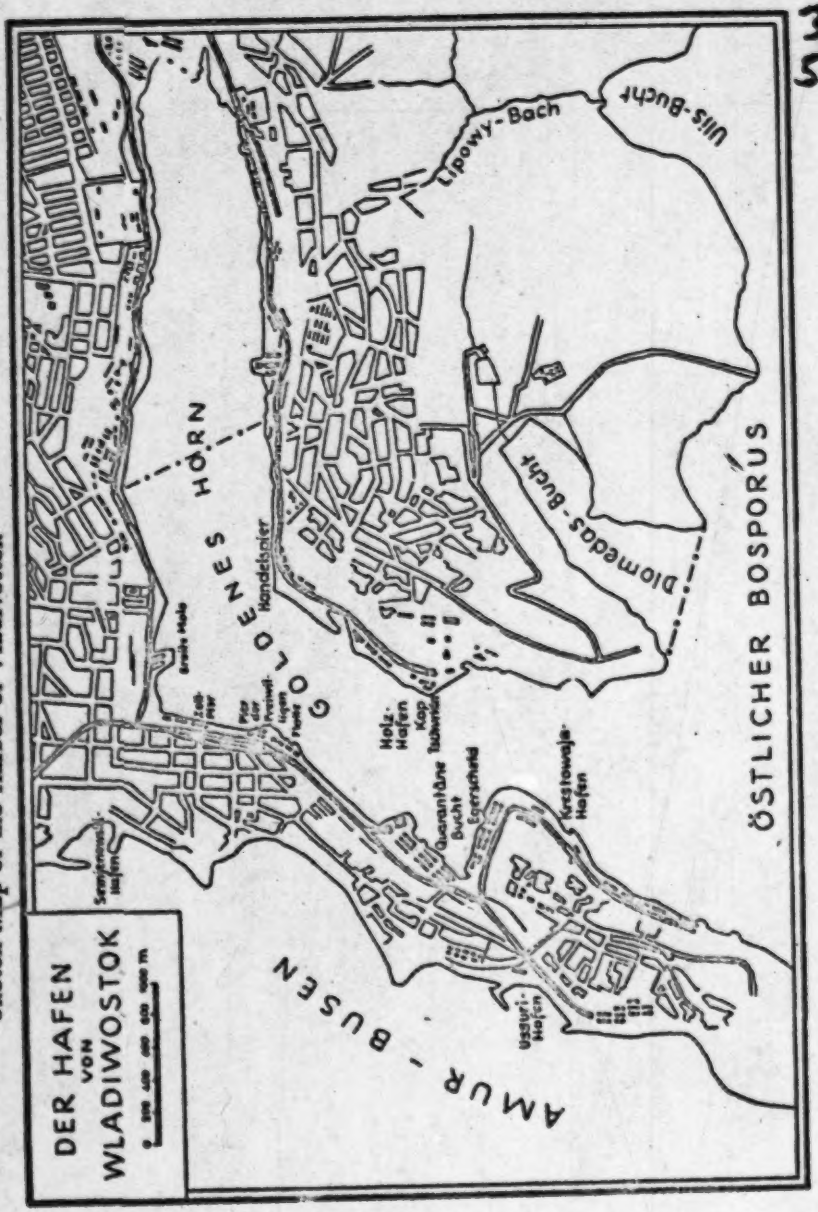

Sketch Map of the Harbor of Vladivostok

361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 Vladivostok is not only a harbor city, but it also has developed
[255] into an industrial city. In first place here is the fish industry, which, however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [396] Vladivostok has great importance as a naval harbor and a shipyard, [399] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 Apart from this fish industry, which is distributed among
322 numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

137 appear extensive moss steppes, which have a similar character to that of the tundra, and these regions have an almost polar appearance. The south, on the other hand, has milder traits in places. Since rich
135 coal and oil supplies have been discovered in very recent times and since their exploitation has begun, the island is sliding more and more into the foreground of economic interest; the population is increasing rapidly and is adapting itself to the island. With this the bad reputation of the island is also beginning to change.

According to the relief, Sakhalin is divided into two parts: a
133 larger, mountainous section in the south, and a smaller section in the north which is gently rolling to hilly. The mountainous south consists of two mountain chains, which run in the direction of the island and which are separated from one another by a depression stamped as a longitudinal valley. The depression is drained toward the north by the Tym' and toward the south by the Poronay.

/278/ The eastern mountain range, whose highest elevations are Nevel'skiy Mountain (2,013 meters) and Lopatin Mountain (1,680 meters), is more heavily divided up than the western mountain range, which also is lower generally and whose highest point, the Aimi Yama, reaches only 1,641 meters. In its external impression, the eastern mountain range should be designated as more of a ridge mountain range. It consists principally of metamorphic rock, slate, sandstone, and limestone which is similar to marble. These are the same stones as those which build up the border chains of the mainland. These sedimentary stones are in many places permeated by syenite, diabase, andesite, and basalt. Granite, however, is lacking. In terms of age, most of the sediment of the eastern mountain range is reckoned as Paleozoic. Mesozoic is diffused only in places and then is only slightly developed. It is different in the western mountain range. This is built predominantly from Tertiary layers, beside the older rock. Jurassic and Cretaceous also lay claim to a significant proportion. Cretaceous appears especially in the southwestern part and is diffused in the former Japanese territory. Weathering effects are very great because of the damp climate; they affect especially the parts of the mountain range without forests. The sharper forms and the greater variety in the relief can be traced back for the most part to the varying powers of resistance of the different types of rock. The loamy and gravelly slate weather especially quickly.

The Tertiary deposits, which have a wide diffusion in all of Sakhalin, and the Cretaceous sediments are heavily destroyed. The

mountain-forming occurrences, which determine the relief of today, began after the deposit of the most recent, Pliocene Tertiary layers and ended still before the Quarternary sea transgression, whose sediments are here deposited almost horizontally. But the present-day mountain ranges of Sakhalin cannot be traced back to Tertiary dislocations alone, for earlier, in a period of the earth's history which has still not been determined exactly, the older layers were already folded up into a mountain range, running in the same direction as today's mountain ranges. Thus in the Tertiary period only a new forming occurred. The post-Pliocene transgression separated Sakhalin from the mainland and flooded all the low-lying sections of the island. It even penetrated between the two mountain ridges, so that these mountains projected from the sea as large, high islands. (207). Later,

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, (Odessa, 1923), Vol. II, p. 265.

in elevations following one another at several intervals and perhaps interrupted also still by lighter depressions, the island then emerged from the sea in its present form. Even today these movements have still not been concluded, as is indicated by the earthquakes which have been recorded up to the present. Traces of glaciation are nowhere to be found.

The longitudinal valley between the two lines of mountain ranges is to be regarded as a graben depression. It is 5 to 30 kilometers wide, and in its entire length it is covered by post-Pliocene sea deposits. The watershed, which separates the Tym' which flows toward the north from the Poronay in the south, lies only 150 meters high. /279/ The floor of the valley is mostly level and is covered with a fertile loamy soil. Protected by the two lines of mountain ranges, the valley has a more continental climate, with the warm summers corresponding to its southern location. Accordingly many Russians have settled here in a series of villages.

Toward the north both lines of mountain ranges move back from the coast, quickly become lower, and go over into a hill country, which fills the interior of the northern part of the island with gently rolling ridges which never project 500 meters. Thereby the two ridges and also the longitudinal valley still distinguish themselves in the relief far toward the north. The coast itself is followed by a broad plain,

133 which consists of recent and post-Pliocene deposits and which for the most part is covered by a tundra vegetation interlarded with bushes. [13] The extent of this plain varies, being largest in the north around Sakhalin Bay. The plain ends in a 2 to 6 meter step which is delineated rather sharply everywhere. With this step the hill country then begins. This hill country as a rule bears a thick taiga consisting of spruces and larches. The watershed regions are scarcely perceptible in the relief, but they show up in thicker and higher forest growth. In places the hill country step also goes to the coast itself and then forms a higher, steep slope, which can reach 15 to 26 meters. (207) Taiga and sea

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, (Odessa, 1923), Vol. II, p. 266.

then come very close to one another.

Schmidt Peninsula, so named in honor of the well-known Sakhalin explorer, forms the extreme northern end of Sakhalin. This peninsula forms in miniature a true model of the geological and tectonic structure of the southern section of the island, with even the intrusive phenomena being the same. Here, too, we find an eastern mountain range and a western mountain range with a depression lying between. In the "Tri Brata," the "Three Brothers," the eastern mountain range reaches a height of 708 meters. For the most part this range declines steeply to the sea, and in the north it forms the rocky Cape Elizabeth, the most northerly point on Sakhalin. The western line of mountains, which likewise declines steeply to the sea, attains a height of only 406 meters. The depression lying in between ends in the north with a lake, which is separated from the sea by a narrow tongue of land. On the land narrows which connects Schmidt [315] Peninsula with the main part of the island lies the oil fields of Sakhalin which today have the richest yield.

Sakhalin's coast is generally but little divided up. In contrast to the more contiguous western coast, the northern coast and the east coast represent typical coasts with alluvial lands and numerous fresh-water lakes. Baykal Bay in the northern part of the island represents [505] the largest fresh-water lake. It can be traveled by coastal ships with a draught of up to 3.5 meters. Here on the eastern side of the bay lies Moskal'vo oil harbor, which has a railroad connection to the oil region in the eastern part of the peninsula. Still more strongly marked

is the alluvial land character of the eastern coast, on which there is one fresh-water lake after another, almost lined up in a row. All these lagoons are extremely narrow, but they are up to 160 kilometers long. In contrast to the restless sea, these lagoons permit /280/ a protected water traffic along the coast. Sandy places with dune formations, however, are only rarely to be found here. Mostly vast, tundra-like moss steppes, which consist of peat layers up to 15 meters thick, spread out here on the lower courses of the rivers, and are especially extensive on the Tym'. Here, as on the western side of the island, these steppes are excellent meadow lands for reindeer herds.

The difference in the coastal formation between the western and the eastern parts of the island can be traced above all to the prevailing current. On the eastern side the current goes along the coast toward the south. On the western side a current toward the south prevails within the Tatar Sound on the coast of the continent, while on the coast of Sakhalin an opposing northern current predominates. This northern current, however, as Zhdanko (188) has indicated, does not

188. Zhdanko, M. "Isvlechenie iz doklada v zasedanii . . I.P.G.O." Excerpts from the Material at the Meeting of the Geographical Society in 1915/, Izvestiia of the Imperial Russian Geographical Society, 1915.

run regularly; rather the current changes in connection with the tides; thus there are only tendencies toward an irregular level coast.

Climatically the low northern part of Sakhalin is the most disfavored, since no limitations are set to the raw influences of the Sea of Okhotsk. Therefore, the appearance of the Daur larch is just as typical here as the appearance of the Ayan spruce. Toward the south in increasing measure the taiga also has deciduous trees of the same type mixed in as are characteristic of the Sikhote-Alin'. A consequence of the damp climate is not only the moss areas near the coast but also the meadows which appear in the more protected flood plains of the rivers. These meadows have a very heavy growth of grass, which in places is 3 to 4 meters high. Senecio cannabifolia and Petastes japonicus should be mentioned as among the principal types represented here. In the mountains themselves the stone birch, Betula ermani, appears as the characteristic tree in the heights as do the spruces and pines. In more protected valleys stocks of pure deciduous trees are no rarity. Worthy of note is the appearance of wild Kuril

137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 162 231 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 162 The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population 433 here is more agricultural. In general, however, the agrarian economy is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

means of transportation. They have built 653.2 kilometers of railroad lines, and in addition they have improved the land roads, too, so that they can be traveled regularly by buses. However, this opening up to traffic has generally been limited to the regions near the coast and to the most southerly part of the island, while the greatest part of the interior, as in northern Sakhalin, remained left to itself. Now the most important coal deposits also lie not far from the coast, and the Japanese succeeded in bringing production in a large number of mines up to approximately two million tons by the beginning of the last war. Of this 500,000 tons could be exported to Japan. The remainder was used in Sakhalin, above all in the wood industry, which had been developed on a large scale by the Japanese. Since 1929 the Japanese had gone about, in a planned fashion, the building up of a cellulose and paper industry in southern Sakhalin, in order to be able to supply their home economy with these products. At the end, just before the outbreak of war, there were eleven large cellulose and paper factories in the country, and their production constituted almost 90 percent of the industrial production of southern Sakhalin. The share of these factories in the total production of Karafuto was around 60 percent. In addition, southern Sakhalin delivered large quantities of wood as cut wood and raw lumber. Southern Sakhalin was also very important to Japan as a base for fishing, which produced rich surpluses. However, in one thing the Japanese did not succeed: the securing of food for the population from the island itself. In this particular Sakhalin was an importing region, although the Japanese made every effort to expand agriculture and the breeding of livestock.

/283/ After the evacuation of the Japanese and the taking over of southern Sakhalin by the Soviet Union, the Soviet Union has striven to fill the land with people and to get the economy's production going again. On this there are numerous reports, which tell especially of the founding of kolkhoz and sovkhoz. In addition there are constant reports on the establishment of fishing stations and of fish-processing central stations, but there are only a very few reports on the taking over of coal mines and of getting them into production. There is little information on the installations of the wood industry, although it is to be assumed that the Soviet Union has above all laid value on getting the industrial plants into production, and apparently, too, everything has been done so that these plants could take up their production again.

The Region of the Amgun and the Uda

This area comprises the entire, heavily divided up coastal strip on the southwestern corner of the Sea of Okhotsk from the river area of the Amgun in the southeast to the river area of the Uda in the northwest. In contrast to the better known coast, the interior of the land, especially between the Bureya Mountain Range and the coast, is still very little explored. The raw Okhotsk climate with its heavy rainfall, the heavy swampiness of the valley areas, the thick taiga of the mountains, which is difficult to penetrate and which is interlarded with high moors, and the lack of habitation of the regions offer few inducements to explore these regions.

The general character of the landscape appears to be greatly varied. Low, forested mountain ridges give way to higher lines of mountain ranges, and in between lie deeply sunken flat valleys, which often spread out into vast plains. The lines of mountain ranges stretch predominantly toward the northeast and represent in places heavily destroyed continuations of the Bureya Mountain Range and also spurs of the Dzhagdy Mountain Range. Some mountain ridges press into the sea as peninsulas, while the bays in between appear to represent broken-in grabens. Numerous small and large islands, which lie off the coast and which are summarized under the name of Shantar Islands, increase the impression of a mountain landscape sunken in the sea. Three large bays press far into the land from north to south: the narrow Nikolya Bay in the east, which is 50 kilometers long and up to 20 kilometers wide, the wide Ul'ban Bay in the middle, and the Tugur Bay in the west, into which the river of the same name empties. In contrast to these three richly divided bays of the sea, the large Uda Bay projecting toward the west appears monotonous.

The coast is for the most part rocky in its entire course from the mouth of the Amur to the mouth of the Uda. It is especially rocky in those places where the lines of mountain ranges and mountains stretching there break off steeply at the coast. These mountains consist mostly of loamy and gravelly slate and sandstone, /248/ which are laid in more or less steep faults stretching toward the northeast. Less commonly granite and porphyry appear between the sedimentary rock. Where this is the case, these mountains can be recognized from a distance in relief with their massive, peaked forms. The beach plains and the floor of the sea are saturated with remains of mussels, especially of Balanus, Cardium californiense, Natica aperta, Trochus schantaricus,

133 etc. (127) The sea narrows between the Great Shantar Island and

127. Meglitskii, G. "The Shore of the Sea of Okhotsk and the Tungus Region" /in Russian/, Gornyi Zhurnal, No. 8, 1893.

the mainland is very shallow and nowhere exceeds a depth of 23.8 meters. Between the individual islands the sea is still shallower, and Yakshina Bay, which penetrates to the south of Great Shantar Island, is not navigable at all for ships at the time of ebb-tide. The line at which the sea becomes 50 meters deep leads from the northern tip of Sakhalin Peninsula directly toward the west and encloses the entire island world; thus here this line runs 100 to 125 kilometers from the coast of the mainland; while on the Okhotsk coast, stretching to the northeast, north of the Uda Gulf the sea is 200 meters and more deep already at a distance of 5 to 10 kilometers from the coast. Between the islands and especially also in the bays, the tides make themselves strongly felt, the local fluctuations in the level of the water reach 4 to 7 meters. The raw influence of the Sea of Okhotsk, which affects the entire province, is caused among other things by the sea current stretching from the northeast along the coast. This current brings large ice masses from the north in the spring and piles them up between the islands and on the mainland coast. On the coast stretching toward the southeast between Nikolya Bay and the mouth of the Amur, a leveling coastline has formed as a consequence of the equal current, and thus lagoons and narrow tongues of land appear here. Also the collecting of sand in the "Amur-Liman" in the north between the mainland and the northern end of Sakhalin Island is a disadvantage which the sea current brings. Great Shantar Island consists of the same geological material as the mainland mountain range which stretches toward the northeast; thus Great Shantar and the entire island group can be regarded as parts of the mainland torn away by the sea. Great Shantar Island consists of a maze of forest-covered summits and mountains, which are up to 1,000 meters high. In between, vast moss moors, swamps, and lakes cover the surface. The other large and small islands are also in part covered withforests and make a picturesque scene with their rocky formation. All the islands are uninhabited.

The Amgun has a total length of more than 800 kilometers, of which around 400 kilometers are designated as navigable. The

river comes from the eastern slope of the central Bureya Mountain Range and flows next between this mountain range and the Badzhal'skiy Mountain Range toward the northeast. Then the Amgun enters a low plain, which here, on the middle course of the Amgun, spreads out to a great width of up to 100 kilometers. In this plain very important rivers flow into the Amgun from all sides. Among these is the Kerbi, which also comes from the west. The area rich in gold around the upper course of the Kerbi was already mentioned earlier. The low plain, from which individual hills and mountains project directly, is filled with moors, /285/ swamps, and lakes. Best known of these lakes is the large Chukchagirskoye Lake, which has a large number of islands. A broad and likewise damp valley area remains with the Amgun on its further course. In the north and south this valley area is followed by a highland, which is covered with forests, which has gentle slopes, and which is up to 500 meters high. The heights of this highland also occasionally come right to the river and then often form steep drops. Notorious is the area around the lower course of the Amgun, which spreads out widely and flows together with the Amur lowland. The drop here is so slight that the Amgun dissolves into a vast number of arms, still waters, and long extended lakes and must wind through the terraine in large and small bends.

The vast, flat swamp and moor plains produce an entirely different picture here from the meadow steppes of the Amur plains. The Amgun plains are, of course, also generally flat, but they are in many cases given a somewhat uneven form by clusters of grass and moss hills, between which blank water often shows through. But the long, irregular strips of forests and bushes constitute the greatest difference. These strips twist through the wide plains and follow the river courses on both sides like gallery forests, causing the river courses to be visible from a distance. On the Amgun the forests consist predominantly of deciduous trees. It is typical of this entire cool and very damp region from the Amgun to the Uda that the forest settles only on the better-drained spots where the surface water and the ground water is in motion, i.e., on the rivers and the slopes. The flat ridges or plateaus are again more unfavorable. On them high moor formations appear often as enemies of the forests; thus the trees become "water-seeking" and gradually decay. The traveler, therefore, must always keep away from the valley bottoms and use the ridges and heights, even though these project only a little. However, often here, too, he encounters a jumble of pathless flat and high moors in the flat watershed regions, and thus he can still go forward best along the slopes.

watershed regions, and thus he can still go forward best along the slopes.

The Amgun region is as good as uninhabited. Only on the largest rivers is human life to be encountered here and there: wooden huts of some Gilyak or also of Tungus Olcha and Negidal, who live from fishing and hunting. On the Amgun itself, however, there are already Russian settlers, who have come together into some small localities. The most important is Kerbi which lies at the mouth of the river of the same name. The Amgun can be traveled by small steamers as far as Kerbi. The Amgun brings goods to supply the area here, and the goods are then towed in boats down the Kerbi to the gold regions.

The valley of the Tugur becomes up to 20 kilometers wide and gives the same picture. Here, too, moss moors extend far down the valley. The swampiness is strengthened here still more by the appearance of permafrost.

/286/ The river area of the Uda is very extensive. In the Uda collect waters which come from the Dzhagdy Mountain Range and also from the Dzhugdzhur Ridge. The Uda's left tributary, the Maya, which is more than 300 kilometers long, separates the Stanovoy from the Dzhugdzhur. Here, too, the great swampiness causes the traveler great difficulties. The Uda is a mountain river and flows seethingly in a bed filled with boulders and interrupted with numerous rocky islands. Only in its lower course does the Uda become quiet. Here lies Udskoye, a small Russian village, which is the center of the hunting of fur-bearing animals. This hunting still brings very rich yields in these remote mountain regions.

The Okhotsk Coastal Area

The area includes the entire western and northern coastal region of the Sea of Okhotsk, beginning at the Uda in the south and ending at Penzhina Bay in the north. With the coast being more than 2,000 kilometers long, the conditions, of course, vary in detail, but in general the prevailing character of a raw mountain forest landscape with a damp and cool climate is preserved, which is less tolerable for man than the harsh contrasts of the continental interior.

The region can be divided into two parts according to the structure of the coast and according to its forms: a southwestern part between the Uda and Okhotsk with coast which is little divided up and a northeastern part which is heavily broken up by numerous large and

small bays, peninsulas, and islands. The character of the southwestern part is determined only by a line of mountains stretching parallel to the coast, the Dzhugdzhur; in the northeastern part ridges of mountain ranges are predominant which stretch irregularly toward the line of the coast. 133

In the western part, the Dzhugdzhur coast, the mountain ridges go right down to the sea and leave free for settlement by man a narrow coastal strip, which at most widens somewhat at the mouths of the rivers. The Primorskiy Ridge, which lies in front of the Dzhugzhur chain in the south between the Uda and the Ayan, even declines directly and steeply into the sea. The Dzhugdzhur, which stretches parallel to the coast and consists of several ridges, forms a contiguous mountain wall with its masses formed predominantly of granite, gneiss, and porphyry. This mountain wall shuts off the coast from the interior. The mean height exceeds 1,000 meters, and the few unprotected passes also lie almost as high. The watershed runs in the vicinity of the coast, and thus along the entire coast only short rivers, which, however, seethe because of the steep slope, flow down into the sea. Therefore, the deeply etched valleys opening on the sea stand in sharp contrast to the more horizontal lines of the round peaked surface of the massif of the mountain range. The valleys are filled with thick /287/ taiga, teeming with underwood, and, with the narrow bottom of the valley saturated with boulders and scree, these valleys offer man only a very difficult opportunity to penetrate into the mountain range; and yet these sharply etched and steeply rising valleys are the sole routes which lead from the coast into the interior of the land. Thus the fact that the coastal strip is cut off from the hinterland is a special mark of this region. The ridge is more thickly forested only on the slopes, while the heights themselves have only a spotty, crippled growth of trees or lie completely bare in the highest places. The passes, too, mostly lie above the tree line and are scarcely usable in winter as a consequence of violent snowstorms.

The interior of the mountain ridge is as good as uninhabited. Apart from hunters, only a few Tungus with small reindeer herds cross the desolate mountain areas. On the coast there are a series of Russian fishing settlements. The principal locality here is Ayan. It lies on a favorable natural bay, which is approximately 1 kilometer both long and wide and 6 to 38 meters deep. Since the entire Dzhugdzhur coast is blocked by ice in the winter, the harbor can be used only in summer, although constant violent sea winds often hamper the departure of sea 361 505

361 ships and indeed in many instances make departure impossible. From
505 Ayan a route starts toward Yakutsk. This route rises steeply over the mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

361 In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an
583 important fish collection point. On the coast and also in the hinterland
241 of the depression, numerous Russians have settled. In addition to an
231 agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

133 Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

Tertiary fault mountain range zone of East Siberia. On the one side, 133
this mountain chain is supposed to have been connected with Sakhalin, and on the other it is supposed to appear again in the Taygonos Peninsula, in the western part of the Penzhina depression, and in the northern part of the Anadyr' region. In the coastal region this chain appears characteristically in the Chutnavar Mountains, which stretch in a wide peninsula from west to east and which are separated from the mainland mountain ranges by an extensive valley which runs in the same direction. Through this valley flows the Kaza Tau'. The mainland mountain ranges referred to above are spurs of the Cherskiy Mountain Range, and with their ridges and the valley areas lying in between, they run into the Kaza-Tau' valley almost perpendicularly; thus in a narrow area the opposing construction appears clearly. For the rest the Tertiary mountain chain appears only in island remains, on the Koni and Pyagina peninsulas and then on Taygonos Peninsula.

East of the Yama begins the Kolyma Mountain Range, which from here on stretches toward the northeast parallel to the coast and then in the hinterland of the Taygonos Peninsula turns toward the north-northeast into the interior of the land. But, in contrast with the Dzhugzhur, the watershed lies far from the coast. The mountain range slopes toward the coast and is broken up into individual parts by numerous long and relatively wide erosion valleys, which run almost perpendicular to the coast. Thus the general impression remains the same as in the west between Okhotsk and the Yama, where the spurs of the Cherskiy Mountain Range meet the coast at the same right angle. However, in the coastal region of the Kolyma Mountain Range the valley areas and also the coastal plain are smaller in size. In the background of the Gizhiga Bay, between the Kolyma Mountain Range and the Taygonos Ridge lies an extensive depression, which is filled with Tertiary deposits. In this depression coal-bearing layers have also been discovered in very [135]
recent times; these layers contain industrially valuable deposits of brown coal and lignite. Natural outcroppings of the productive seams are even to be observed on the coast of Gizhiga Bay.

The northern location comes out more and more in the landscape 137
picture of the coastal region east of Okhotsk. The protected valley areas are as a rule covered with good meadows, which offer /289/ usable pastures for cattle and horses and which are also rich in hay fields. The courses of the waterways are followed by meadow bushes and rows of poplars. Birches set in toward the upper courses. The slopes are mostly covered with larch forests, which become light and low in the heights.

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same [505] names. During the summer, connection between these localities is [487] maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities 491 are Orotukan and Khatynakh. For connection with the outside world a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

same time created the shortest connection with the entire Kolyma region. The highway is more than 1,000 kilometers long and was built under the most difficult of conditions (mountain ranges, permafrost). Bases connected with small agricultural economies /290/ facilitates the use of the road. The harbor of Magadan lies on Nagayevo Bay. Steep rocks are artificially heaped up at the foot of the landing places for sea-going ships. Ice breakers are employed in the harbor to make it possible to use the harbor for a longer period. The rapidly growing city, which in 1939 already had more than 10,000 inhabitants and today is estimated to have 50,000 inhabitants, lies somewhat at a distance from the harbor and is separated from it by a flat, rocky hill. The construction of the city was done with the most modern means. They have even succeeded in building stable six-story skyscrapers, despite the permafrost, by using deep excavations and by laying in insulating layers.

The Provinces of the Extreme Northeast

These regions are bordered on the west by the Kolyma Mountain Range, and they are divided into the Chukchi Peninsula, the Anadyr' and Penzhina region, and the Koryak Mountain Range. Of these areas only the strip along the coast is better known; the vast interior, on the other hand, is mostly still insufficiently explored.

The Chukchi Peninsula is cut off from the Asiatic contintent on the one side by Chaun Bay on the Arctic Ocean and on the other side by Anadyr' Bay on the Bering Sea. The southern border is formed by the Anadyr' Mountain Range, which represents the watershed between the Arctic Ocean rivers and the Anadyr', and which is more than 1,000 meters high. The region north of the Anadyr' Mountain Range is also filled with lines of mountain ranges almost as far as the coast of the Arctic Ocean. These mountain ranges stretch in a direction from west to east. Further toward the east the contiguous, broad mountain landscape is lost, and the mountain ranges form themselves into two ridges which lie under 800 meters and which, broken through several times by rivers, reach the east coast with the northern mountain range going in the direction of Cape Dezhnev. The cape itself, which lies 77 kilometers from the mainland of Alaska, consists of a single, massive mountain which is 770 meters high and which is formed from limestone. This mountain is completely isolated and is connected with the mainland only by a low, narrow tongue of land, which is

133 covered with tundra. Thus from the sea the cape looks like a mighty island, which in its layout vividly recalls the rocks of Gibraltar. The northern and also the southern mountain chain consist predominantly of gneiss and granite. In the Anadyr' Mountain Range Mesozoic rocks are already drawn into the faulting, and south of this range Tertiary layers are also drawn in; thus from north to south one encounters more recent mountain formations.

As a consequence of the easier accessibility the coast of the Chukchi Peninsula is very well explored. Shelagskiy Cape on the eastern side of Chaun Bay is approximately 950 meters high. Further to the east the mountains, which are 600 to 800 meters high, fall back and make free a broad coastal plain with lakes and beach formations full of lagoons. These beach formations, however, are here and there interrupted by round humpy mountains, in which the basic stone /291/ projects from alluvial land plains. At Kolyuchin Bay the mountains again go right down to the sea. Cape Serdtse-Kamen' has heights of
[64] from 600 to 900 meters. Eight polar stations have been erected on the coast of the Arctic Ocean on the Chukchi Peninsula to observe the climatic and especially the ice conditions for the benefit of shipping. These stations are distributed over the Chukchi Peninsula at almost equal intervals. All are equipped with radio stations and are supplied for the most part by airplane. The eastern and southern coast of the peninsula, where the mountain ridges often go down to the sea, is richly divided by various bays. From Anadyr' Bay, Kersta Bay penetrates farthest into the land. On a side arm of Kresta Bay lies the highest elevation on the Chukchi Peninsula, the Matachingay. With its 2,800 meters it dominates the mountains surrounding it which are 600 to 800 meters high. At its foot andesite appears, and thus one can probably correctly assume the mountain to be a volcano formation.

137 The bulk of the Chukchi Peninsula is covered with tundra, which makes for a very varied picture according to the relief. Swampy depression tundra, interrupted on the courses of the rivers by pasture and birch underwood, appears only in the valleys and plains. Of greater value is the dry mountain tundra, which is covered with good reindeer moss. The mountain tundra traverses the flat ridges of the mountains and insure the existence of the great reindeer herds of the Chukchi. The higher mountain ranges and mountain peaks are completely without vegetation and are richly sprinkled with rock ruins. Growth of trees occurs very rarely. It is limited to individual, protected spots. Only in the valleys opening toward the south into the Anadyr' region do

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated.

361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

133 appearance of a large mountain river. The high banks already here have good larch forests. In the area around the upper course of its left tributary, the Belaya, which comes from the Anadyr' Mountain Range in the north, there are supposed to be, on the other hand, only poplar forests and no larches. Above Markovo, the principal locality in the interior of the region, the wide plain begins. At Markovo, more than 500 kilometers from its mouth, the river lies only 25 meters above sea level, and thus the drop from here on is very slight. The middle course of the river, therefore, extends over a width of up to 1.5 kilometers and includes numerous islands. The depression, especially the central parts on both sides of the river, traverse wide, lightly hilly, moss-covered swamp areas with numerous large and small lakes and river courses with water which scarcely flows. There are
[131] no forests at all in the depression. West of the Belaya and to the southwest of the basin, the swamp areas here and there still have bushes of alders, poplars, and willows, but toward the east this, too, disappears, and here the landscape picture appears monotonous and can be surveyed over a vast area. Also the spurs of the mountain range and the ridges are mostly flat and covered with a slimy moss covering. Often the mountains still have lakes and brightly iridescent swamp areas on their ridges.

131 To the north of the Anadyr' depression, as was already mentioned with the Belaya, only poplar forests occur in protected places. Larches are generally rare there. Only south of the depression do they also /293/ appear. In the west, on the other hand, i.e., more removed from the damp-cool influence of the sea, larch forests penetrate into the valley areas and onto the slopes much farther to the north. The transition from the depression to the mountains occurs in the same way almost everywhere. As a rule, poplars and willows, but rarely birches, set in first on the river courses, and, widening into a type of gallery forest, these trees accompany the river even into the mountain range. For this the trees take up the valley bottom, while the slopes are already traversed by coniferous forests. The slopes exposed to the winds and the higher ridges, however, are without forests.

132 The fact that the Anadyr' depression opens onto the sea permits the influence of the sea to penetrate far into the land. In the west temperatures of -50° are no rarity, while that degree of coldness appears only as an exception in the east. In summer, on the other hand, the coast is cool and rainy, while in the west there are very warm days. The cool fog which envelopes the coast in summer almost never penetrates into the land, however.

almost never penetrates into the land, however. 000

The area occupied by settlements is very slight in the east and 361
in the center of the depression. In the west, on the other hand, there 563
are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives.

There are only a few settlements on the coast because of its 361
flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region [505]
and is regularly visited by coastal steamers. A short while ago rather [135]
large Eocene brown coal fields were found in the vicinity of the locality. The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/
and supplies the coastal steamers. In addition, Anadyr' is the central [255]
station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory.

Toward the southwest the Anadyr' depression goes over into the 133
Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which

133 flows into the Sea of Okhotsk. In comparison with the Anadyr' region,
[137] the climate here in the Penzhina lowland is somewhat milder. The inclination of the ground is greater, and thus the moss steppes widely diffused here are not so very swampy: the larger rivers are accompanied by poplar forests almost everywhere. Toward the mountains there is the same alternation in the vegetation picture as there. At the mouth
361 of the Penzhina lies Kamenskoye, where the coastal steamers land.
563 The capital, Penzhina, itself is a small village lying in the middle of a lonely moss steppe in the interior of the region. Koryak constitute the majority of the small population. They are in part sedentary, living as fishermen in the villages, or they wander as nomads with their reindeer herds on the good grazing grounds of the moss steppes.
135 In the Tertiary layers, which fill the Penzhina basin, coal-bearing series have recently been found, which also contain lighter lignite in addition to brown coal of good quality. The deposits are said to stretch almost over the entire Penzhina basin.

133 On the east the Penzhina lowland is bordered by a flat mountain ridge, the Penzhina Mountain Range. The very long moss steppe, the Parapolskiy-Dol, whose character is like that of the Penzhina lowland, stretches on the other side of the Penzhina Mountain Range from southwest to northeast. In the south this moss steppe widens and traverses the entire land narrows which connects Kamchatka with the mainland. Here in the middle of the land narrows the moss steppe reaches a height of 155 meters.

The region between the mouth of the Anadyr' in the north and the land narrows in the south is taken up by a still little known central mountain range, which is usually designated the Koryak Mountain Range, after its principal population. This mountain range fills the entire area as far as the east coast, and its waters in the main empty into the Bering Sea. Traversing the land which is mostly formed like a high plateau are three lines of mountain ranges: the Pal-Mal, the Tingeney, and the Rarytkin Ridge. Like the entire Koryak Mountain Range generally, these three belong to the outer zone of the Tertiary faulting belt and are regarded as a continuation of the Kamchatka Mountain Range. In contrast to the interior which is like a high plateau with a general height of 500 meters, the rivers flowing toward the coast are deeply dug in, and thus from the sea an impression more like a mountain range arises. The bulk of the surface is covered with tundra, only the more protected places and valleys have forests. Reindeer-breeding Koryak inhabit the interior and also constitute the population of the /295/ fishing settlements on the coast.

population of the /295/ fishing settlements on the coast. The center of the fishing and the processing of fish is Ust'-Apuka, west of Cape Olyutorskiy. 361 563

Tertiary brown coal deposits have also been found in the Koryak Mountain Range in Korff Bay in the south and in the Ugol'naya Bay in the extreme northeast. In Korff Bay the deposits have already been mined for years, and the coal from here is used to supply coastal shipping. The coal here is of Miocene age and is contained, as far as the supplies have been investigated to date, in 11 seams with a total thickness of 20 meters. In this the quality of the upper seams is very different from that of the lower seams. The uppermost seam represents typical lignite: the lower seams, on the other hand, are like a gleaming, bituminous coal. Mining is supposed to have been taken up in Ugol'naya Bay also, and a coal base is likewise supposed to have been erected. 135

Kamchatka Peninsula

Like a spearhead Kamchatka Peninsula projects toward the south, separating the Bering Sea from the Sea of Okhotsk. The peninsula covers 270,000 square kilometers and has a length of 1,200 kilometers, which corresponds approximately to the distance from Berlin to Rome. 133

South of the Parapolskiy Dol plateau which stretches across the land narrows, the first lines of heights begin, and these then develop into two mountain chains as the peninsula widens. Between these two chains, the western and the eastern, is imbedded the valley of the Kamchatka River.

The low medium mountain range of the west increases considerably in height south of the Palana River. In the area of the Tigil' River the main chain is richly divided up, is accompanied by parallel chains, and reaches already a height of 1,650 meters. In the area around the source of the Bystraya and the Icha rises the truncated volcano cone of the Ichinskaya Sopka, which projects over its approximately 1,200 meter high ground area to the gigantic height of 3,607 meters. The mighty dome of the mountains is covered with glaciers, from which some hanging glaciers flow down. The water from the melting of these hanging glaciers has torn deep furrows. The Ichinskaya Sopka is the sole active volcano in the western half of Kamchatka; thick smoke rises constantly from its crater. South of the Icha the character of the mountain range changes basically. North of the Icha,

133 Tertiary sandstone and eruptive elements predominate; but to the south, on the other hand, slate, granite, syenite, and porphyry appear predominantly, forming more massive ridges and round peaks. Gradually the height is lowered, and the western mountain range flows together with the eastern line of mountains to stretch then in a line to the southern tip of Kamchatka. The western mountain spurs and parallel chains have numerous old volcano cones, which often rise far beyond the vegetation line. The slender, basalt pointed cones of the Eleuken and the Moreshatnaya Sopka should be mentioned here above all.

/296/ From the sea there rises slowly a treeless moss steppe, which is often designated also as tundra. It rises to a height of 200 meters and then rises rapidly in mountainous forms to a height of 600 meters, whereupon the mountain range zone follows. Only in the extreme north, where the Penzhina Mountain Range stretches to the sea, is the west coast itself steep and also often rocky. For the entire remaining course of the coast, it is flat and represents a leveling coast /Ausgleichsküste/ with numerous narrow bays and coastal lakes. [34] Many settlements, however mostly only small ones, lie in the damp coastal plain, which is in part also swampy. These settlements lie almost always on the lower courses of the rivers at a distance of 10 to 20 kilometers from the mouth, approximately at the border where the forest along the valleys from the mountain range runs into the moss steppe.

The eastern half of Kamchatka likewise forms a medium mountain range, but it has numerous high volcano mountains, whose thick andesite masses traverse the greater part of the land from the middle Yelovka in the north to the southern tip of the peninsula. The number of volcanos, of which 18 are still active, is far greater than in the western chain. The volcanos here lie mostly between the main ridge and the coast. Of the active volcanos, the following are the most important: The Shiveluch (3,335 meters) lies in the angle between the Yelovka and the lower Kamchatka. Its peak has six glaciers. The last eruption occurred in 1928. The Klyuchevskaya Sopka, which is likewise glaciated, rises to a height of 4,775 meters south of the point where the Kamchatka River breaks through the eastern mountain range. The Klyuchevskaya Sopka is the highest point on the peninsula. The volcano cone, which projects to its mighty height directly from the plain of the Kamchatka River with a slope inclination of 30°, is among the most impressive volcanos on the earth. Its last eruption

took place in 1931. However, the largest eruption took place before the arrival of the Russians in 1696, when a stream of lava flowed as far as the Kamchatka River in the vicinity of the village of Klyuchi, which lies 32 kilometers from the crater. Usually the peak is enveloped by a cloud of smoke, which in many cases rises 2 to 3 kilometers above the peak and from which a rain of ashes and stones often falls on the slopes. The crater has a diameter of 250 to 300 meters and a depth of 50 meters. Russian scientists were lowered into it in 1931. Their report (29) states: "Clouds of ashes and stones, many of which

29. Berg, L.S., Priroda SSSR /The Nature of the USSR/, (Moscow, 1938), p. 227.

gleamed in bright red colors, were thrown up 200 to 300 meters and fell down with a rumbling noise. Thick, dark gray smoke perpetually filled the entire crater opening. A sharp smell of sulfur gases and hydrogen chloride filled the air. In the crater itself evening twilight and darkness prevailed, and against this the stones glowing in bright colors shone out all the more sharply and clearly. Indescribable din and deafening noise filled the entire area. During the sixteen hours of the stay in the crater an especially heavy eruption occurred. A mighty cloud rose up to the /297/ heights and poured a hail of glowing rock over the crater."

In the vicinity of the Klyuchevskaya Sopka lie the volcanos Ploskaya and Zamina, which are likewise covered with permanent snow, and farther to the south is the 3,682 meters high Tobalchik, which is known for its immense crater and for the largest glacier in Kamchatka. Farther to the south follows the Kronotskaya Sopka (3,620 meters), which was regarded as extinguished until it suddenly awoke again in 1922. At its foot lies the 128 meter deep lake of the same name, which apparently fills an old crater opening. Around it lies a lies a series of high volcanos, of which the Uson deserves special mention. From its deep crater it throws up effervescingly through splits numerous hot springs which have temperatures between 52° and 85°. The Avachinskaya Sopka (2,731 meters), which at present is permanently active and which lies 30 kilometers northeast of Petropavlovsk, has a double crater and resembles Vesuvius in its structure and appearance, but it is more than twice as high. A last, larger eruption occurred in 1926. Since 1927 it has been throwing out ashes, steam, and gases continually. The lava of the Avachinskaya Sopka belongs to the

133 andesite type (172). Not far from the last volcano mentioned, the

172. Savritskii, A.N. Piat' let geologicheskikh isledovanii Kamchatki /Five Years of Geological Research in Kamchatka/. Problems of Soviet Geology, 1935.

mighty but quiet Koryatskaya Sopka rises to a height of 3,457 meters, and next to it is the Sopka Zhupanova (2,929 meters). South of Avacha Bay the mountain range has many valleys because of the rivers streaming off radially in all directions; but down to the southern tip of the peninsula smaller extinguished and active volcanos lie on the mountain range. The height of the mountains here rarely exceeds 900 meters. The last group of volcano mountains, with the Ilinskaya (855 meters) and the Kambal'naya Sopka (1,615 meters), rises over an extensive region of mountains, which are gently inclined and like ruins, in the extreme south around Kuril'skoye Lake, which is 306 meters deep and which represents an old crater.

312 Related to the phenomenon of volcanos is Kamchatka's wealth of warm mineral springs. Of these the Nalychevkiye springs between Avacha Bay and the Sopka Zhupanova are worthy of note. These springs come from an andesite layer with a temperature of 72°, and they contain a great deal of borium and arsenic, which is deposited in terraces. Interesting pictures develop in the winter when the steam rains down in the environs and forms fantastic ice figures.

133 The east coast, in contrast to the west coast, is richly divided up by inroads. The projecting peninsulas mostly end with a steep, rocky descent to the sea. The bays, on the other hand, have a broad, flat, treeless strip, which has its greatest size at Litke Bay. Avacha Bay, too, on which Petropavlovsk lies, is surrounded by a coastal plain, which, however, is narrower here.

[30] Enclosed by the high lines of mountain ranges, which protect it from the damp, cold, foggy, snowy, and rainy climate of the coastal sides, the central Kamchatka valley is distinguished by a more continental /298/ climate, which, dispite the harsh winter, is found more pleasant by man than the constantly damp coolness of the coast. The river valley itself is swampy but it is accompanied by a grass steppe, occupied by a spotty stock of birches. This grass steppe offers good conditions for breeding livestock and is not unfavorable even for agriculture. After the break-through to the east the Kamchatka River ends in a wide, treeless delta, which has a special economic significance because of

the schools of salmon which regularly press up the river here in immense masses for the spawning period. 133 [136]

The vegetation of Kamchatka, under the influence of the heavier rainfall and the milder temperatures, has another stamp from that of the forest landscapes along the coast of the Sea of Okhotsk, and in the southern part of the peninsula the vegetation even attains an extraordinarily luxuriant character. 137 The bright, shining green of the deciduous trees dominates the picture, and only in the interior of the Kamchatka valley does the dark color of coniferous forests with Daur larch and silver firs appear. There is on Kamchatka no forest of the type of the Siberian taiga. The characteristic tree here is the birch, and in the first place is the stone birch (Betula ermani) with its gray to red bark. However, the birches never come together in thick stocks; rather they always preserve a certain distance from one another, thus giving rise to a kind of park landscape. Along with poplars, alders, and mountain ashes, the birch covers the entire area of the eastern coast. The landscape here is magnificent when the red fruits of the mountain ash glow out between the various greens in late summer. However, the growth of trees ends on the eastern slopes at a height of 300 meters in the north and at a height of 550 meters in the south. The all too great, cool dampness no longer permits the growth of trees. From the interior of the Kamchatka valley, however, the same birch forest rises to a height of 600 to 750 meters. In the underwood of these forests the Kamchatka honeysuckle (Lonicera edula) is especially worthy of note. Its black-brown fruit is collected in August in large quantities as food by the inhabitants. At heights of 300 to 550 meters the birch forest gives way to the already often mentioned bent wood vegetation, which is especially typical for the mountainous sections of Kamchatka. It consists here of a confusion of entwined branches of creeping alder, Siberian stonebirch, and mountain ash, between which individual rhododendron types grow. These bushes cover whole areas and slopes, and are often so matted that a path through them must be made with an axe, unless one wants to follow a bear path; for the bear has withdrawn into this thicket and is still preserved today in larger numbers. At approximately 800 meters this bush formation ends and is replaced by the zone of the Alpine flora, which generally reaches up to a height of 1,400 meters. 133 The glacier line on Kamchatka lies at a height of 1,500 to 1,700 meters, and thus most of the volcanos have a snow cap, many volcanos are half covered by snow caps, and the Klyuchevskaya Sopka even is covered two-thirds by snow caps.

133 These volcanos, /299/ projecting far beyond the general level, give the landscape of Kamchatka its peculiar picture.

137 The bottoms of the valleys, if they are not too very swampy and covered with moss, have luxuriant meadows, which appear especially in the southern part of the peninsula and which offer excellent [231] grazing ground for livestock. The introduction of the breeding of livestock has, therefore, attained the greatest measure here, too. To be mentioned especially as characteristic of the landscape picture are the high-growing plants in these regions, especially the umbrella-shaped "sweet grass" (Heracleum tanatum or Heracleum dulce), [243] which grows up to 4 1/4 meters high and develops a stalk 12 centimeters thick. The natives use the juice of this rapidly growing plant [273] to sweeten their food; the Russians earlier extracted alcohol from the plant by fermentation.

133 Entirely in contrast to the forest and park landscapes of the
137 mountain regions which are rich in vegetation, are the tundra-like moss steppes which stretch in a broad zone along the entire western coast. In the east, on the other hand, these moss steppes form only a narrow rim around the bays. Occasionally these steppes occur also in the valleys of the mountain ranges. These monotonous regions are depressingly dismal and gloomy especially when a veil of fog hangs over them and prevents seeing any distance.

161 The population of Kamchatka according to estimates, scarcely numbered 20,000 in 1914, and the native element was in the majority at that time. But after World War I and up to the present the population has multiplied because of the increased immigration of Russians, and by 1945 the population was given at around 100,000. Thus today the Russians are predominant, constituting approximately 80 percent of the total population. Today their number is estimated to be at least 150,000. The sedentary population is divided among three lines of settlements: the east coast, the west coast, and the Kamchatka Valley.

563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities engaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

Of greatest importance for the economy of Kamchatka is fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking of the fish and salting of the fish in vats and above all to processing in canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

world. The crabs are extraordinarily large and attain lengths of half 228
a meter and more. They are drawn up from the bottom of the sea in
drag nets in which they get entangled. Worthy of mention in this [255]
connection are the floating crab canning factories, which are used on
the west coast and which carry out on board all the work from catching
to canning.

The capital of the peninsula is Petropavlovsk. The city lies 361
on Avacha Bay, which freezes over only exceptionally. The bay is
surrounded in a semi-circle by the panorama of high volcanos. The [504]
city's favorable natural harbor, which a short while ago got a ship-
yard with a dock for ships of up to 5,000 gross registered tons, gains
more and more in importance since the ships of the Northern Sea Route
spend the winter here before they start out on their trip to the north.
This applies especially to ships which regularly travel to the Kolyma
River in order to ensure supplies of heavy materials to the gold regions
on the upper course of the Kolyma. Petropavlovsk is the center of the
hunting of sea animals and of the industries connected with this. In
addition, the city also has fish processing installations, a brickyard, [255]
saw mills, and a can factory, which is of especial importance since
it supplies the necessary material to all the smaller fish processing
localities. In the treeless delta of the Kamchatka River lies Ust'-
Kamchatsk, the next most important locality on the peninsula. More
than 2,000 workers /302/ work in the canning factories there in the
summer. The locality, in addition, has a special importance as the
gateway to the interior of the peninsula, which can be reached easily
only through the Kamchatka valley, while the other approaches have
to overcome difficult passes. In increasing measure also wood is [313]
floated down the Kamchatka River to the coast, where it is processed
in and sent on from Ust'-Kamchatka. In the broad longitudinal valley
of the Kamchatka there are a series of villages, among which Verkhne
Kamchatsk and Mil'kovo should be mentioned. In this area removed [231]
from the coast, horses are kept, since supplying fish food for dogs
causes difficulties. At the inner entrance to the cross valley, at the
foot of the largest volcano cone, lies the village of Klyuchi, from
which the volcano receives its name. Here the traffic lines from the
interior merge and make the locality into a central trading place,
especially for fur goods. In addition to Russians and Koryak, some
Chinese and Koreans have also settled here. Klyuchi has a scientific [654]
observatory for the study and special observation of the Klyuchevskaya
Sopka. Below the village the Kamchatka widens into a sea decorated
with islands.

with islands.

361 The main locality on the west coast is Bol'sheretsk. It is the
228 center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

The coasts are rocky and steep and are torn up into adventurous, picturesque forms by the heavy breakers. Thus the coasts project a romantic-dim picture in the fog. Thousands of birds make their home on the rocks. 133

The Commander Islands have become famous for the catching of sea otters (seals) there, but this wealth is almost completely destroyed today. The 600 inhabitants, which consist of a mixture of Aleuts, Russians, Eskimos, Kurils, etc., live almost exclusively from what the sea offers them. On the land itself foxes are hunted. 225 161 224

The Kurils

The island garland of the Kurils came to the Soviet Union after the end of World War II. These islands are not too well known, and therefore somewhat more space is to be devoted to them. 133

The Kurils, along with Hokkaido and Kamchatka, form the most northerly arc of the outer frame of the east Asiatic continent. The Kurils represent a connection between the volcanic massif of Hokkaido Island and the volcanos of Kamchatka. To the island chain belong 36 islands which are larger in terms of area, 20 smaller islands, and many uninhabitable rocks, which often barely project from the sea. According to the local division of the islands, the Kurils can be divided into a 1,200 kilometer long main chain, which begins in the north with Shimushu Island and ends with Kunashiri Island off Hokkaido, and into a second, parallel chain, which, however, is only approximately 100 kilometers long. This shorter chain begins at Hokkaido with Nemuro Island, stops with Shikotan Island, and lies east of the main chain. The entire area of the Kurils is given at 15,600 square kilometers, of which 40 percent is on the four largest islands, namely Etorofu, Paramushiru, Kunashiri, and Uruppu. The most northerly island in the chain, whose name is Araito, lies under 50° 56' N latitude, while the most sourtherly lies under 43° 26' N. The Kurils, therefore, lie approximately at the latitude between Leningrad and Burgas in Bulgaria.

/304/ The understructure of the Kurils rises like a mountain ridge from the floor of the sea, whose highest parts project beyond the surface of the water as islands. The slope of this submarine ridge has various forms. Toward the Sea of Okhotsk it declines relatively steeply to a depth of 2,000 meters (the greatest depth is 3,374 meters). The slope toward the Pacific is bigger, for here the Kuril deep sea

graben extends along the island chain. This graben has depths between 7,000 meters and 8,000 meters, and its greatest depth is 8,514 meters. The descent to this extraordinary depth occurs still more quickly than on the western side. With individual islands the 200 meter isobar often lies right off the steep decline of the rocky edge of the shore. The islands are separated from one another by sea straits, which are of greatly varying width and depth. Busole Strait, which is more than 2,000 meters deep, and Muzhir Strait, which is 1,800 meters deep, have the greatest depths. All the other sea connections only have depths under 600 meters, and they are in part also only very shallow. A limited exchange of water between the Pacific and the Sea of Okhotsk takes place via these sea straits.

According to the results of research to date, the Kuril chain lies on the surface of an old fault zone, which is buried deeply in the sea and which is of Paleozoic and Mesozoic age. This fault zone was submerged in the formation of the east Asiatic geosyncline. The formation of the latter began in Lower Cretaceous. Miocene was the time of increased sinking, in which thousands of meters of sediments were deposited. On the other hand, the sinking caused faults, strains with thick intrusions of magmatic masses on the eastern edge of the geosyncline, i.e., along the line of the present-day Kurils. At the end of the Tertiary extended longitudinal and also cross breaks came into being. Along the longitudinal breaks there were eruptions and further elevations, while on both sides the ground sank down and formed as an end result a narrow mountain ridge accompanied by deep channels. Thick lava intrusions followed and led to the metamorphization of the sediments broken through. Mighty masses of lava flowed out and formed volcano cones, which projected from the sea as islands. The movement of the earth's crust and the formation of islands have also not been concluded in the present and are shown in the intensive volcanic and seismic activity and also in the elevation of the islands, to which numerous sea terraces give proof.

Almost all the islands consist basically of eruptive rock (andesite lava and tufa); only most northerly (Shimushu) and the most southerly (Shikotan) are formed exclusively from sedimentary rock. On some islands there appears under the lava covering heavily dislocated and metamorphized slate of Paleozoic and Mesozoic age. Also weakly processed formations of the Tertiary are shown in some basins.

The Kurils are typical volcano formations. Fifty-two volcanos

have been /305/ counted on them. Of these eighteen are still active today. Of the latter the highest are the Syrycheva on Matsuwa Island and the Prevo on Shimushir Island. The Syrycheva is 1,485 meters high, and the Prevo is 1,360 meters. Extinguished volcanos attain greater heights. According to their structure, the majority of the volcanos are the layer volcano type. The present volcanic activity varies greatly from volcano to volcano. With many (Raikoke, Shimushir), the entire cycle is gone through, from subterranean rumbles to the outburst of gases, the throwing out of ashes and bombs /Bomben/ and finally the explusion of lava. With other volcanos (on Matsuwa and Chirinkotan Islands) the lava flows quietly without collateral phenomena. With many volcanos only one crater exists, with others side craters break out, while constantly working fumaroles form over the splits.

The northwestern part of the Pacific Ocean is distinguished by heavy earthquake activity. Of all the seismic occurrences of the earth which are known, 37 percent occur in the area, and the bulk of these occur in the Kuril chain. The appearance of earthquakes varies greatly within the area of the islands; with many islands they occur up to seven times a year, with others they occur less often. For the most part the earthquakes are related to tectonic occurences on the floor of the sea. The earthquakes have their epicenter as a rule deep under the floor of the sea. Very often submarine outbreaks also result. In many cases there is a connection with the volcanic activity on the islands. The earthquakes themselves do not have the greatest destructive effect on the islands; rather the submarine occurrences do, since they often produce mighty flood waves which storm against the islands with great force and repeat themselves several times. Flood waves of this type have been observed with a height of up to 27 meters. In 1780 a ship lying in the harbor was carried onto the land 400 meters in the interior of the island by such a waves.

The orography and the forms of the Kurils vary greatly. Usually the larger island is traversed lengthwise by a single mountain ridge, which mostly fills the entire island. In many cases also there are two to four mountain chains, or the islands are taken up by an entire system of individual mountains. The mean height of the mountains lies between 500 meters and 1,000 meters, but thirty mountains have been counted with heights between 1,000 meters and 1,300 meters, and there are twelve mountains which exceed 1,300 meters. The northern island, Araito, has the highest mountain, the volcano Oyakopa, which

133 is 2,334 meters high. It is covered with permanent snow, which comes down the slopes to 800 meters. There is also permanent snow on the other very high mountains. Plains and hilly areas occur very seldom on the islands. The gently rolling Shimushu Island in the north and Shikotan in the extreme south constitute a rare exception. Neither, as has already been stated, is formed from volcanic rock, but rather from sediments, and they are regarded by many researchers, therefore, as parts of the mainland which have been cut off.

/306/ The volcanos in their forms are a true collection of models of all types from the ideal volcano cone to volcano ruins. Craters of old volcano ruins on the coasts which are filled with sea water form excellent, protected bays such as, for example, Buron Bay on the island of Shimushir. This bay is 200 meters deep. Often small island groups, through their circle-shaped ordering, indicate the existence of a submarine crater.

In their horizontal division most of the islands show regular forms. Besides round to oval islands, which as a rule are crowned only by a volcano group, there appear above all long stretched out islands. The latter apparently have come into being by the growing together of individual islands. To accomplish this the base was enlarged through an elevation of the land, and the holes were filled by the flow from volcanos. In addition to these two main groups there are also isolated examples of very much torn up islands. The coastal forms are almost everywhere the same. The predominantly steep slopes in the interior of the islands become gentler toward the coast, but then they descend to the waterline in a steep descent which is often almost perpendicular. Off the coasts and between the islands there are numerous rocks, reefs, and banks, which are very dangerous for ships. Volcanic eruptions and earthquakes bring forth manifold changes in the course of time, often within short periods of time and before the eyes of men. Thus in 1937 a volcano island emerged from a depth of 800 meters approximately 20 kilometers off the coast of the island of Araito. The force of the sea is continuously active on the coasts. Washed-out grottos and niches are everywhere to be found in the steep slopes. The most important occurrence, which, however, acts differently in the individual sections of the island arc, is a general elevation. Beach lines and erosion terraces have been established on the slopes up to a height of 300 to 400 meters.

Weathering is very great. On the heights and slopes lie hurled off, angular pieces of rock, which, when the inclination is greater,

tumble down and form true "rock seas" at the foot of the mountains. 133
The river valleys are deeply etched in the mountain massif and extend from the highest elevations radially to the sea. Often they end in bays, which are filled with deposits and thus afford favorable opportunities for man to go onto the land. In many cases, on their way to the sea these rivers have dug deep, narrow gorges in the volcanic stone, but often because of the elevation, the rivers have not had time to sink down to the level of the sea. Thus they tumble into the sea as a waterfall at the steep break on the coast.

The climate of the Kurils is raw and brings a cold, long, and 132
relatively dry winter and a cool, damp summer. The climate stands completely under the influence of the monsoonal circulation of air. In winter northwestern winds prevail (70 percent); they have great strength (the monthly /307/ mean velocity of the wind is 14 meters per second) and there is slight relative humidity of the air (60 percent). In summer southern and southeastern winds prevail, but they generally are weaker than in the winter and are often interrupted by calms. The relative humidity of these winds reaches 90 percent. At the end of the summer and in the beginning of the fall very heavy winds, which can attain a velocity of up to 74 kilometers per hour, appear as spurs of southern typhoons. The fluctuations in temperature are not very great (21° to 23°), the mean temperature in the coldest month lies between -5° and -7°, and the mean temperature of the warmest month lies between 14° and 17°. The number of frost-free days is 120 in the north and increases to 180 days in the south. The rainfall ranges from 750 millimeters to 1,000 millimeters, and in the course of the year it has its maximum in August/September and its minimum in January/February. Only approximately a third of the days are without rainfall. Snow begins to fall already at the end of October and lasts on the northern islands until the beginning of May. The snow covering reaches a thickness of 100 centimeters. The cloudiness is very heavy. On many islands only 15 to 30 clear days have been observed in a year. The most beautiful season is the fall, which has the most still and rain-free days. Characteristic phenomena of the Kurils are the numerous thick fogs, which appear primarily in the summer and arise when warm-damp air masses from the Pacific move over the cold Oyashio /Okhotsk Current/. The fogs, as a rule, do not have great thickness, and thus the peaks of the mountains often lie in the sunshine, while all the rest of the island is enveloped in thick fog. The fogs are an extraordinary hindrance to shipping and bring many dangers. From

132 December to the end of April shipping must be stopped completely as a consequence of the ice covering in the area of the islands. Even the most southerly island, Shikotan, is cut off from all traffic with the outside world during this period.

137 Because of the great stretch of the islands from north to south, vegetation on the Kurils has developed very differently. Of the 768 types of flora established to date on the Kurils, 257 have the base of their development in Japan, and only 45 have the base of their development in Kamchatka and the adjoining mainland. On the northern island tundra vegetation predominates with widely diffused bush covering of Pinus pumila, willow bushes and birch bushes. Trees can develop only in some few protected places. The central islands have the poorest vegetation: these islands mostly are also small and of lesser height, and thus the rawness of the cool sea current can have the strongest effect on them. The southern islands have a relatively rich vegetation. Here (Uruppu, Etorofu, Kunashiri, Shikotan) there already appear forests which are rich in wood and have trees with long trunks. In these forests firs (Picea jezoensis, Picea glehni) and the Sakhalin spruce (Abies sachalinensis) predominate. Mixed in with these trees are oaks (Quercus grosseserrata, Quercus /308/ dentata), beeches (Carpinus cordata), and other deciduous trees. In higher places and in the vicinity of the coast there appear meadow-like grass areas, which occasionally lend an Alpine note to the landscape picture.

136 Land animals are slight in terms of the number of types. The brown bear and the wolf are in relation to the distribution of the forests. Very numerous are foxes of all types.

The bird world is extraordinarily rich. In this respect the smaller islands above all are distinguished. Migratory birds are rare. They prefer the Salkhalin route for their wanderings. The real wealth of the Kurils are the fish and aquatic mammals, which undoubtedly are poor in terms of the number of types represented but appear in unusual quantities. Among the fish the same types of salmon should be named as were mentioned in the discussion of Kamchatka. Seals stand in first place among the sea mammals, but sea lions and whales also occur. The valuable sea otter has been almost completely exterminated.

161 The number of permanent inhabitants of the Kurils was around 13,000 before World War II; in the main they were Japanese. Kuril Ainu--the original inhabitants--numbered only several hundred. The

The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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3: Thiel--379 K-4, 5 (no date) 1953 RR1 Siberia RR1

Section A

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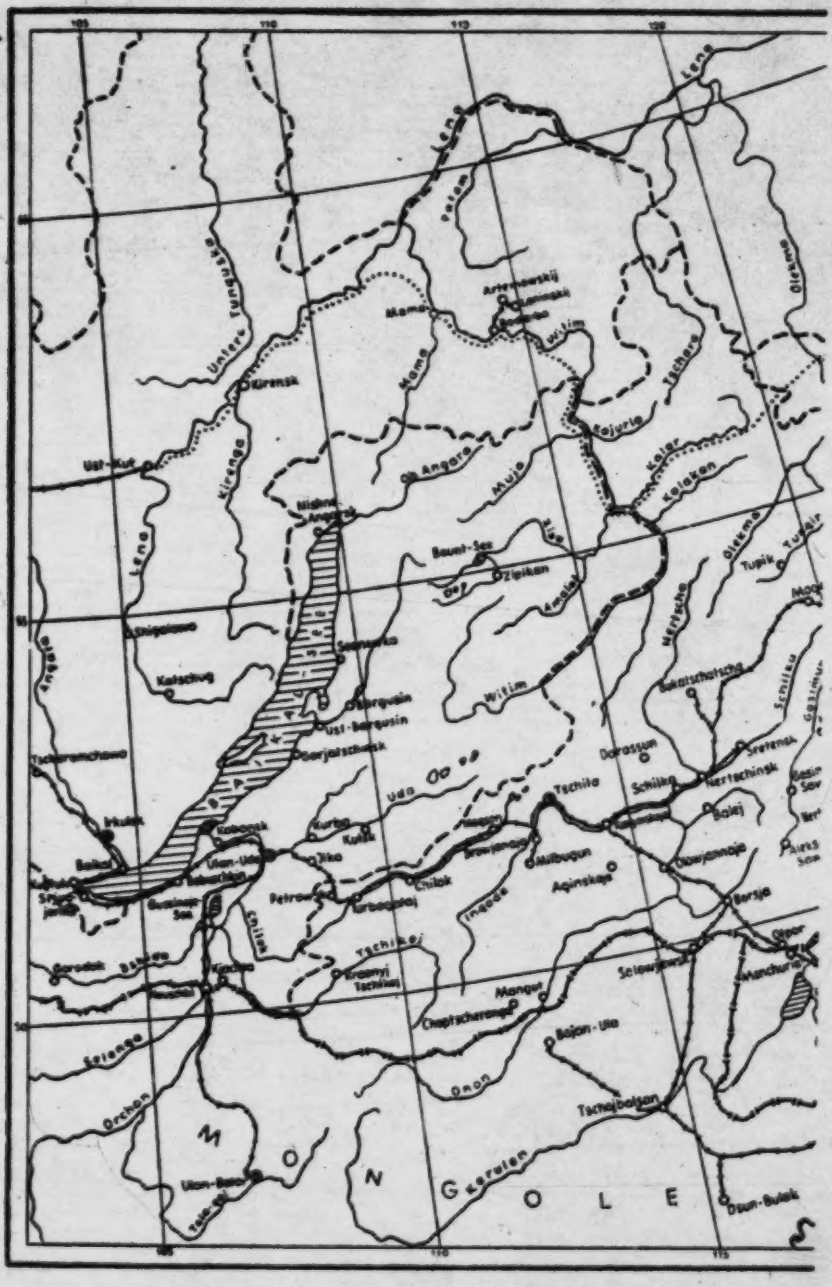
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Olekma
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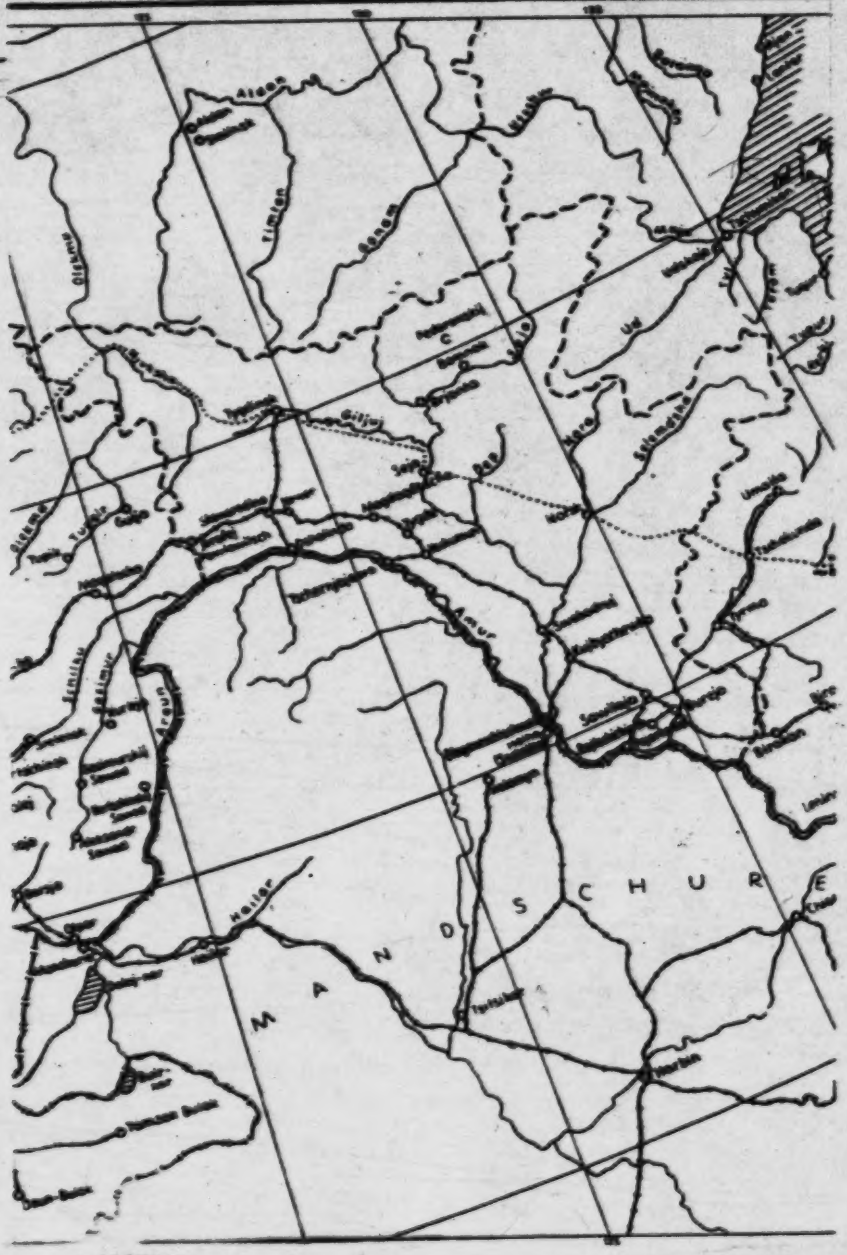

Section B

Map of the Soviet Far East

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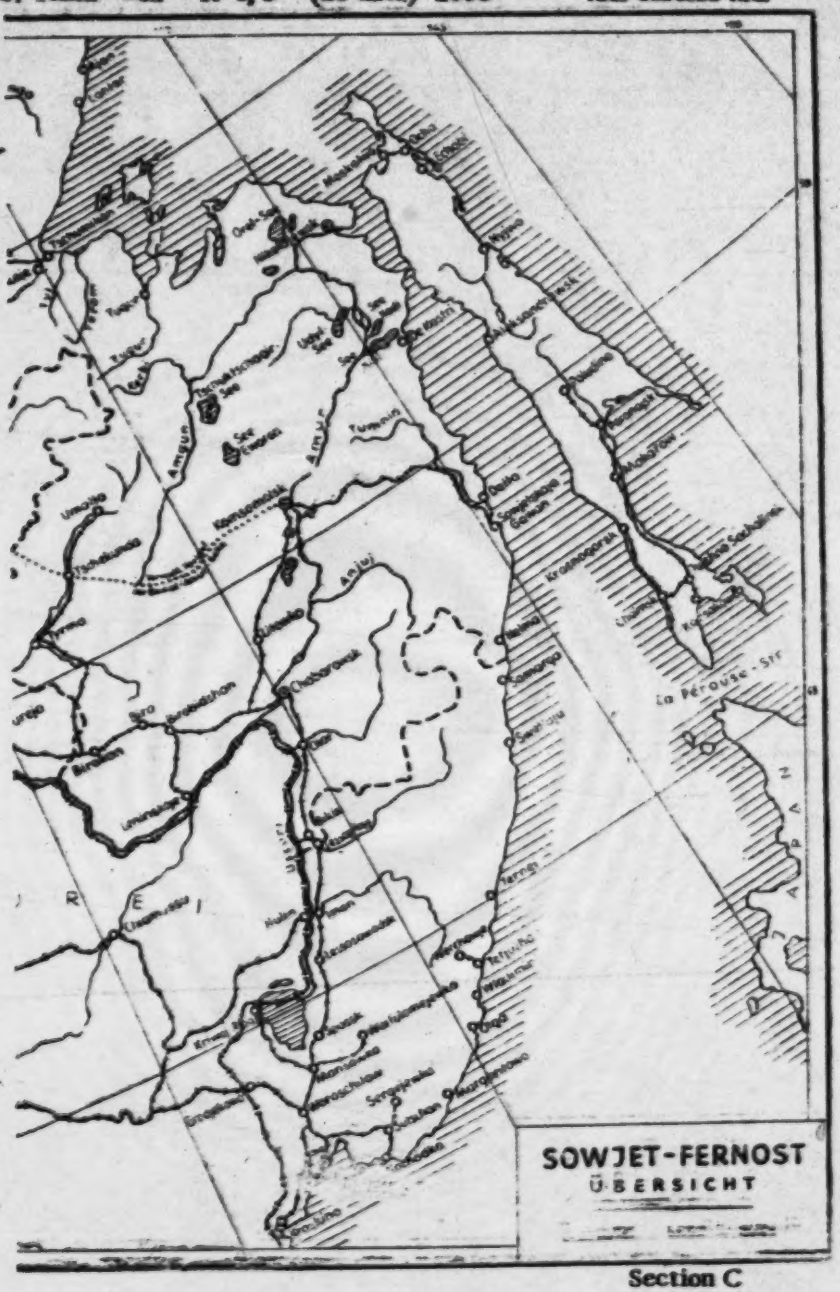

Section C

Map of the Soviet Far East

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Transkription des russischen Alphabets

Bei geographischen Namen wurde die bisher im Deutschen gebräuchliche Schreibung im Text der Arbeit beibehalten, im übrigen die in der nachstehenden Tabelle angeführte Umschreibung benutzt, der gleichzeitig die übliche englische Transkription beigefügt wird.

	Gebrauchte Transkription		Englische Transkription	
а	a		a	
б	b		b	
в	w		v	
г	g		g	
д	d		d	
е	e	nach Konsonanten	e	nach Konsonanten
	je	nach Vokalen und am Wortanfang	ye	nach Vokalen und am Wortanfang
ж	sh		zh	
з	s		z	
и	i		i	
й	j		y	
к	k		k	
л	l		l	
м	m		m	
н	n		n	
о	o		o	
п	p		p	
р	r		r	
с	s,	jedoch zwischen Vokalen ss	s	
т	t		t	
у	u		u	
ф	f		f	
х	ch		kh	
ц	z		ts	
ч	tsch		ch	
ш	sch		sh	
щ	schtsch		shch	
ъ	unbezeichnet		unbezeichnet	
ы	y		y	
ь	j		'	
э	e		e	
ю	ju		yu	
я	ja		ya	

4: U. S. Army G-4 (no date) 1956 RR1 Siberia RR1

HEADQUARTERS
UNITED STATES ARMY FORCES, FAR EAST
AND EIGHTH UNITED STATES ARMY (REAR)
Office of the Psychological Warfare Officer
APO 343

Mlynarchik/hy/266-2755
18 January 1956

ANALYSIS #070156

000 USSR: MAGADAN, CAPITAL OF THE KOLYMA GOLD EMPIRE

Part I: The Rise of Magadan (1927-1946)

1) Introduction

2) Physical Features of Kolyma

3) Administration

4) Population

5) Development of the Kolyma Area (1927-1931)

6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932

a. The Leadership of Berzin (1932-1937)

b. Violence under Garanin (1937-1938)

c. Blundering of Vyshnyevetsky (1938-1941)

d. The Regime of Nishikov (1941-present?)

7) The Kolyma Buildup (1932-1946)

8) The City of Magadan

9) Summation

Part I. The Rise of Magadan (1927-1946)

316 466 1) Introduction: Until the early 1930's the Kolyma region in the northeastern section of Siberia was practically deserted; the only population consisted of several native tribes who were engaged primarily in reindeer breeding. Approximately 175 independent miners were also in the area for the purpose of extracting gold from the rich fields around the Kolyma River; however, in 1931 the Soviet Government, at that time completely lacking gold reserves, began one of its largest enterprises until that time—the exploitation of Kolyma gold on an increasing scale. Labor was primarily prisoners, both criminal and "counter-revolutionary," who were sent to the Magadan area by the hundreds of thousands yearly in an attempt to build the area into a self-sufficient region with only one mission—ship every available ounce of gold to Moscow.

115 121 The information contained in this report is primarily derived from published reports made by prisoners who have returned from the Kolyma area after having served their prison terms as forced laborers. Although admittedly this report is historical in nature rather than a concise evaluation of the present situation, it was considered appropriate, due to a lack of general information and knowledge of the area, to present

115 a survey of the development and buildup of the Magadan-Kolyma area with
121 the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

[131 2) Physical Features of Kolyma: Kolyma is that region in the
63] northeastern part of Siberia, named for the Kolyma River; the boundaries have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 Be that as it may, there is ample evidence to support the contention
631 that neither of the two above cited political divisions are technically correct; due to the establishment of Dalstroy (Far Eastern
471 Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 3) Administration: The Constitution of the USSR is not formally
625 operative throughout this vast area[1] (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

[1] [i.e., the Kolyma region of Siberia — Analyst]

however, the NVD appoints the head of Dalstroy, leaving to him the selection of his assistants. Authority is held and exercised solely by Dalstroy, and everybody who represents this authority is appointed by the head of the organization or his assistants acting as his agents. Every inhabited place has a "commandant" who has authority over the territory under his control. Under Dalstroy rules this commandant has the right to inflict the death penalty on all prisoners.

A somewhat different status is accorded to the remnants of the native tribes which form so-called "national districts." They enjoy various privileges and are given assistance by the Soviet Government; however, it should be noted that these privileges and assistance can be considered as such only in comparison with the position of the prisoners. These local tribes number only a few thousand, and even in their national districts they have no real authority to govern themselves.

4) Population: The population of the region[1] is not accurately known, primarily due to the continual turnover of prisoners who are imported by the hundreds of thousands yearly and who die at almost the same rate. Before the discovery of gold and the creation of Dalstroy, the local population could hardly have exceeded 25,000 to 30,000; according to the census of 1926-1927 the population of the Kolyma region was 7,580. It is very unlikely that the number of aborigines has materially increased under the rule of Dalstroy; in fact, during the first period of the Revolution the native population showed a marked tendency to decrease.

However, the total population of the Kolyma region during the Dalstroy administration has grown fantastically, and the only explanation is the importation of prisoner labor. The exact number of prisoners cannot be determined for obvious reasons; however, according to a report by a Soviet seaman who formerly served on ships running between Vladivostok and Magadan the entire Kolyma region is

> "a single concentration camp. Into it have been thrown huge masses of the repressed. How many of them he cannot say exactly.... In his opinion it may be calculated with considerable accuracy that during the years 1937 to 1940 not less than a million and a half persons were brought on steamers from Vladivostok to Magadan; during each navigation season from April to November four Dalstroy steamers (Felix Dzherzhinskiy, Dalstroy, Soviatsia, and Dzhurma) were in operation, each making from 12 to 15 voyages in the course of the summer and bringing from 6,000 to 9,000 persons on each voyage."[1]

(Note: Radio Magadan in a report on 24 October 1955 stated that "Nagayevo port vessels -[Nagayevo is the port servicing Magadan]- have fulfilled their annual cargo delivery plan 105.8%...the seagoing vessels of the Nagayevo maritime port overfulfilled their 8 month cargo delivery plan but failed to fulfill their 9 month plan. The leading place among seagoing vessels is being held by the steamship 'Felix Dzherzhinskiy.' Good results were also achieved by the steamship 'Dzhurma' which is on its way from Nakhodka to the Kresta Bay carrying vegetables, foodstuffs, manufactured goods, fruits, construction and technical materials, and equipment." The interesting feature of this report is the fact that the steamships "Felix Dzherzhinskiy" and "Dzhurma" which were definitely known to be transporting laborers in 1940 are still plying the same route and very likely are carrying the same "freight" because the hulls of these two ships are known to be constructed to carry prisoners, not freight as stated.)

1 Dallin, David J., Forced Labor in Soviet Russia (New Haven, Yale University Press, 1947), pp. 136-137 [i.e., Kolyma - АНАЛИТ]

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466 According to other sources the number of ships in Dalstroy service is higher than the four ships cited above; it has been positively stated that in 1940-1941 five more steamers (Minsk, Kiev, Igarka, Komsomol, and Uritsky) and the icebreaker, "Sakhalin," were in operation with a total shipping capacity of 35,000 passengers. (Note: Local Soviet Far Eastern radio stations which service areas with shipping administrations have been noted to make reference to the Uritsky, and in the course of the past six months a vessel named "Komsomolsk" may be the ship "Komsomol," as included in the ships carrying slave labor. This possible identification is noted because monitoring of local Soviet Far Eastern radio stations has always been plagued with the difficulty of "making out" names of persons, ships, and the like."

It goes without saying that prisoners were also shipped into Kolyma by the northern route--the run from Archangel east through the Arctic Ocean. This route was attempted because during the 1930's Soviet ships carrying slave laborers on the run from Vladivostok to Magadan passed through the Sea of Japan and the Tatar Strait, both of which were constantly filled with Japanese vessels; for obvious reasons, the Russians were not too eager to have the Fascist Japanese circles learn of this Soviet cargo. However, due to the extreme difficulties of navigation along the northern route, successes were few; instances of ships carrying laborers being caught in the ice with no survivors were not few. In summation, even if the northern route is discounted, the importation of 400,000 to 500,000 laborers annually is not impossible.

161 Recent estimates of the total population of the area[1] have ranged between 300,000 and 1,000,000; however, inspite of the fantastic death rate among prisoners, millions have been imported as laborers, and there is reason to believe that there is approximately between one and one and a half million people in the area.

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655 5) Development of the Kolyma Area (1927-1931): Commercial gold mining really began in the Kolyma fields in 1927, and at first the entire production was in the hands of free agents who ventured into the area. "In 1929, according to official Soviet statements, gold was being panned in three fields,.... There were altogether 65 prospectors working in the three fields, and a total of 108 men living in the adjoining settlements."[2] According to Soviet law at that time, all gold was to be delivered to the government trust, Soyuz-Zoloto (Union Gold); however, no branch of this trust was closer to the Kolyma gold fields than that office in Okhotsk, which was still more than 1,000 miles from the fields. Furthermore, private gold buyers were willing to pay a higher price for gold than was the government which was attempting to keep gold prices on a level with the rising prices of commodities. This situation had the result that a large "black market" in gold arose, and much of the gold, according to Soviet officials, went into the hands of the Japanese, whose fishing boats were almost omnipresent in the Sea of Okhotsk. These fishing boats brought merchandise to sell in the gold fields, and this can be substantiated by the fact that much of the goods in the Magadan area at that time bore Japanese labels.

The Soviet Government found itself faced with two possible solutions to the problem: either it could permit free-lance gold prospecting as had been the case in California and Alaska, or it could invest a large amount of money into the area in an attempt to build up its own resources for extracting the gold. The first measure was hardly feasible, especially by a government whose basic principle was opposition to free enterprise, and the second possibility was practically impossible because the Soviet Union at that time had no money to invest. It was in this manner that the Soviet Government decided to invest its only and largest asset at that time—people. However, since few volunteers were

1 [the Kolyma region—Analyst]

2 Ibid., p. 113.

willing to venture into such an inhospitable area, prisoner labor was considered to be the only solution whereby sufficient numbers of personnel would be available in Kolyma to exploit the gold resources there. It was at this time that the collectivization program was in progress in the Soviet Union, and labor was to be found in abundance in the form of those sturdy peasants, especially in the Ukraine and White Russia, who opposed the confiscation of their land into collectivized enterprises. Furthermore, previous attempts at the use of prisoner labor had been satisfactory in the construction of the Baltic-White Sea Canal. Consequently, it was decided to move large numbers of "socially hostile elements," as they were called, into the Magadan area to exploit the gold fields.

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6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932: In the winter of 1931-1932 a special administrative unit was established under the name of Dalstroy, and this organization was responsible for the development of the extreme northeastern part of Siberia—the primary task was the exploitation of the gold-rich Kolyma region. It should be noted that Dalstroy was under the direct control of the GPU (later reorganized into the NKVD and again into the MVD), which immediately undertook to supply the organization with huge numbers of laborers. It might be mentioned that Dalstroy had "first pick" of all the prisoners throughout the Soviet Union; simultaneously Dalstroy procured adequate numbers of free-labor specialists, namely, engineers of all types who were to organize the actual exploitation of gold.

635 466

a. The Leadership of Berzin (1932-1937): Berzin was the head of Dalstroy during the years 1932-1937, and since he was the very first of the NKVD chiefs of the organization, his administration was filled with a terrible loss of life; this was not permitted to interfere with his mission, however.

After a preliminary examination of the situation, it was decided to establish a port on the Sea of Okhotsk and penetrate gradually inland rather than to use an overland route. The harbor of Nagayev, located close to the Ola River estuary, was selected as the primary base of operations; this harbor is at present the port which services the chief city of Magadan. (Note: This harbor is approximately 10 miles long and 3 miles wide.) In order to show the complete uninhabitability of the surrounding area near Nagayevo, the port area has been described as "surrounded by ridges of rock which overhang the water. The rocks, sometimes rising a thousand feet or more, protect the harbor, but on their open sides the winds blow unchecked. Down below where the steep cliffs meet the water, there is no land for human shelter. Above, one is blown off one's feet by the force of the wind that is cold, damp, penetrating, and unequalled in ferocity anywhere in the world."[3] Beyond the ridges surrounding the harbor there is a swamp of the type familiar to this region, under which perennial ice exists; beyond the swamps come the taiga.

In the summer of 1932 ships were dispatched from Vladivostok loaded with Dalstroy cargo, including machinery, equipment, foodstuffs, and manpower. The steamers were gifts to the NKVD by the Soviet Government, and each ship made from 12 to 15 voyages from Vladivostok that navigation season. These ships were specially constructed to hold large numbers of prisoners, and machine-guns covered every inch of the cells. No precautions were neglected to prevent the escape of prisoners in the areas where Japanese ships might rescue escapees and learn the nature of the Magadan enterprise.

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3 Ibid., p. 117.

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Upon arrival in Nagayevo harbor, tents were provided for the guards, while prisoners remained unsheltered in barbed-wire enclosures. The official task was to build the port and a city, which was to become Magadan. In order to give a clear picture of the actual difficulty of the operation, the following citation is quoted in full:

> "The prisoners bore the hardships and built. With bare hands they constructed piers for ocean steamers, setting up caissons weighing many tons under the steep cliffs where the sea was 12 to 15 feet deep at the water's edge. They cut broad roads through the stone, leading down to the piers. They built, in order of importance, several plants: a sawmill, a brickyard, a fish-salting factory, ship repair yards, a power station. They began draining the swamp and clearing the taiga adjacent to the spot selected for the future town, felling and uprooting trees, pulling up moss by hand, and harrowing the soil over and over to create a semblance of cultivable top soil as a measure of defense against the encroaching geological ice. They built houses for the administrative staff, which included private houses for the officials and their hired servants; for the GPU they built 'cold-resistant' barracks with double walls filled in with sawdust; they built a special small house for the police dogs which were later to play such an important role in the Kolyma penal camps. There was time and labor for everything except for building barracks for the enslaved workers themselves."[4]

At first there were no established work hours; prisoners "were compelled to work as long as they could stand on their feet; they were required to show 'enthusiasm.' The food was meager—bread, dried fish, sometimes hot soup, and twice a day a mug of hot water."[5] In addition, the fact that workers were continually wet from working in swamps or the construction of the port led to epidemics, and the death rate rose at an incredible rate; disease ultimately spread to the NKVD guards and the hired technical personnel. It was this factor which led to the decision to build barracks for the laborers. These barracks were built with only single boards for the walls, and contained only iron stoves for heat in a climate where -60 degrees in winter is common and where -90 degrees has been recorded. The prisoners were informed that these barracks were only temporary, but in 1946 these very same barracks were still in use.

Every week steamers continued to unload masses of prisoners in Nagayev harbor. These prisoners were all "long-timers" who were chosen because of their physical fitness—most were Siberian farmers, Don and Kuban Cossacks, and Ukrainian and White Russian peasants. It goes without saying that these people were selected from opponents of the collectivization program which had been completed just prior. It would have been a complete waste of time to transport any other than the above mentioned healthy people because experience was to show that only the physically strong were able to exist in Kolyma, and even many of these died within two years.

All of the above activity culminated in the erection of the present city of Magadan; however, Magadan was only to be the base of operation for the actual purpose of the administration, and the gold was in the northern areas in the interior. At this stage laborers were sent into the desolate inner regions with the mission of building roads from the gold fields to the port city; this highway was to extend from

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4 Ibid., pp. 119-120.
5 Ibid., p. 121.

Magadan to Srednikan, and then on to Seimchan. The distance by air was some 200 miles and it was planned to open this road by 1934. The project was begun in the autumn of 1932, but winter set in early, and reliable accounts have claimed that

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> "Blinding snowstorms raged for weeks on end. At times, even in Magadan, walking from one house to another was almost impossible. On several occasions communication with the taiga was completely cut off, and no food could be sent to the inland camps. Since the supplies the prisoners could take with them on leaving Magadan were extremely small, famine would set in.... In addition, in the absence of barracks men had to live in tents or, more often, in brushwood huts, with the temperature at -60. In spite of the insufferable cold, the prisoners went on with their work. Even under normal taiga conditions prisoners died by the hundreds and thousands, and nearly everybody had frostbitten hands and feet. What went on in some of the winter camps must have remained a mystery to the authorities, since in some no living beings were left—neither prisoners nor guards, or even dogs. One of the valleys of the region, the Shalvinski, has since been called 'the Valley of Death.' ...a party of prisoners numbering several thousand, together with the entire convoy of guards, lost their way in the blizzard and died to a man. It used to be said in Magadan that of all those who were 'thrown' into the taiga in the first heroic year of Dalstroy, only one out of 50 to 100 came back."[6]

The Magadan-Seimchan highway proved to require more than the planned two years, and the work was not completed until 1937. In return for this accomplishment, Dalstroy and Berzin were expecting to receive generous rewards. However, upon his arrival in Moscow Berzin was caught in the vast purges of that year and was executed, having been charged with "having ties with capitalist countries, of selling gold to foreign countries, of surrounding himself with confessed or secret 'Trotskyites' as well as other oppositionists, and of planning a coup d'etat in the region and seizing all power so that he could secede from the USSR and join the United States or perhaps Japan."[7]

b. Violence under Garanin (1937-1938): The years 1937 and 1938 resulted in the purges of countless "oppositionists," and Magadan had a large turnover in personnel; many of the NKVD personnel were purged, and a new administration was ushered in with the appointment of Garanin to lead Dalstroy.

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At this stage the population of Kolyma increased tremendously; about 100,000 prisoners were brought in annually. Most of these new prisoners were "counterrevolutionary elements"—people who had not done physical labor previously, such as scientists, artists, politicians, educators, leaders of industry, trade, among others. In 1938 the purge struck the prisoners in Kolyma when "Garanin undertook to liquidate thousands of intellectuals. Henceforth there was no more fur clothing for the prisoners. The standard equipment became wadded jackets and trousers which soon hung like torn rags.... The felt boots were replaced by shoes made of canvas.... The wretched rations of the prisoners were deficient in fats; the major component was bread."[8] However, the quantity of bread allotted to each prisoner was determined by the amount of work

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6 Ibid., p. 125.
7 Ibid., p. 131.
8 Lipper, Elinor, Eleven Years in Soviet Prison Camps (Chicago, Henry Regnery, 1951), p. 105.

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he did in accordance with the norm; since norms were set very high even for healthy peasants from the farms, intellectuals invariably failed to meet their quotas. Garanin frequently made trips throughout the various camps, seeking those who had not fulfilled their quotas--these were then shot. "This was still not enough. At night he would have thousands of enemies of the people taken out of all the Kolyma camps...and driven off to prison. This prison called Serpantinka is about 375 miles west of Magadan, in the midst of the forest, and it is probably one of the most ghastly institutions in the Soviet Union.... It was estimated that Garanin had the deaths of some 25,000 persons on his conscience.... He was finally recalled (1938)."[9]

c. Blundering of Vyshnyevetsky (1938-1941): After the arrival of Vyshnyevetsky "no change was made in the treatment, clothing, or food of the prisoners. But the summary trials and shootings of prisoners without trial ceased. The mortality among the miners remained at a constant 30%."[10] The cause of the downfall of the new head of Dalstroy was the expedition to Pyostraya Dresva Bay. In the spring of 1940 a ship was sent to that area with several thousand prisoners and some 800 free citizens on board to exploit the precious metals found to exist in that area. Inasmuch as the ship left so late, Vyshnyevetsky was warned of a possible disaster when the ice jams formed. Prisoners were shipped wearing only summer clothing and with thin shoes. At the destination prisoners began work on the construction of camps in which they were to be imprisoned. However, a hurricane destroyed all the efforts at the construction sites, and the following spring the remnants of the expedition returned to Magadan: 200 free men and 150 prisoners. Not one of the men who returned did not suffer from frostbite, and eyewitnesses in the hospital at that time claim that the survivors, to the last man, were either amputees or insane. For this enterprise Vyshnyevetsky was recalled to Moscow where he was sentenced to 15 years imprisonment; his arrest was due to the fact that 600 free men had perished in the futile effort, but no reference was ever made to the thousands of prisoners who also perished.

d. The Regime of Nishikov (1941-present?): The new chief of Dalstroy was Lieutenant General Ivan F. Nishikov, who according to the latest reports still is in command; whether the execution of his superior, Beria, affected his status is not known. According to Elinor Lipper in her book "Eleven Years in Soviet Prison Camps," the authoress, who was imprisoned in various Kolyma prison camps from 1938 to 1946, states that:

> "he is icily, mercilessly cruel. By cruelty he pushed through the fulfillment and overfulfillment of the gold plan; by cruelty he won decorations and large money bonuses. In 1942 at the age of fifty, he divorced his first wife.... He placed her and her grown son, who was a state's attorney in Magadan, aboard a ship headed for Vladivostok, and married a young communist girl of 29 named Gridassova, a primitive, crude, avaricious creature, who is only too well known to myself and to other female prisoners, for she functioned as the harsh commander of the Magadan women's camp. Thanks to her husband's position she has risen in the military hierarchy and has been decorated. She is the head of Maglag, the camp district of Magadan and the surrounding region, and rules the lives of tens of thousand of prisoners.
>
> The couple's country house is located on the highway forty-five miles northwest of Magadan. It is furnished and equipped in the greatest comfort and is surrounded

9 Ibid., pp. 106-107.
10 Ibid., p. 108.

by Nishikov's private hunting preserve. Near by, the prisoners of the invalid camp called 'Seventy-second Kilometer' work in a glass factory which is under the special protection of Gridassova and consequently always registers a marvelous production record. During the War burnt-out electric bulbs were repaired there, since new bulbs were almost unobtainable and even tiny bulbs were sold at a hundred and fifty rubles."[11]

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7) The Kolyma Buildup (1932-1946): As has been indicated earlier, Magadan and the entire Kolyma area were almost uninhabited in 1932 when the expedition under Berzin reached Nagayevo port; however, although at a fantastic cost in human lives, remarkable development of the Kolyma area was made. As early as 1946 it was clearly known that Dalstroy's extensive and many-sided activities were coordinated in a system of administrative organizations, each of which deals with a specific section of the region's economy—the centers of all these organizations are located in Magadan. At that time the following were known to exist: administrations of supplies, fish industry, coal, wood manufacturing industry, road building, agriculture, motor transport, and a few others. Essentially these administrations have the same task--they must insure uninterrupted operation and success in the chief industry of the region—gold mining, and with this ultimate goal in mind, they must supply all necessary materials and products. The ideal situation, as desired by Dalstroy and no doubt by Moscow as well, seems to be for Magadan to be completely self-sufficient and to turn over to the state all gold mined. As far as the fishing industry is concerned, it is known that fish is exported from Kolyma to Vladivostok. Attempts have been made to extract oil locally to supply motor transport in the region; however, there has been little success in this project although the presence of oil deposits in the area has been definitely established.

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Road construction was one of the primary tasks upon the initial efforts in Kolyma; just before World War II, another spurt in road building occurred. In 1939 the administration of road building was split into two independent organizations, one for the south and one for the north. By that time, the trunk highway from Magadan to Seimchan was being extended in the direction of the newer gold fields on the upper Indigirka River, and a number of side roads were also constructed to connect the main gold fields on the upper Kolyma River with the highway. Altogether, according to the best estimates, there were approximately 901 kilometers of paved roads in actual use at that time. However, this was inadequate, and in 1939-1940 a new plan of extensive road building was drawn up covering the construction of new roads in the extreme north, at the Kolyma estuary, and in the south, on the upper Kolyma, in the so-called "old" gold mining districts. In addition to new tributary roads, work was started in 1939 on the construction of a second motor highway from Dresva Bay on the Sea of Okhotsk to the gold-mining territory on the upper Kolyma. Even far more reaching were the plans for road construction east of the Kolyma estuary, in the tundra of the Arctic coastal region, down to the Bering Strait, where geological exploration had discovered gold fields of exception richness, perhaps exceeding those of the upper Kolyma. There have been no exact data concerning these plans; understandably, the information coming from the deep interior of the Kolyma region is generally far more scant than that coming from Magadan. However, at the beginning of the Russo-German War in 1941, all these plans for road construction were curtailed for obvious reasons. As has been indicated earlier, practically all construction activities were halted and many short-term prisoners were even sent back to European Russia where they served actively in the defense of the Soviet Union. In connection with the construction of roads just prior to the German

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11 Ibid., pp. 110-111.

491 invasion, it should be mentioned that the history of the Nagayev harbor development, as cited previously, was again repeated.

316 The actual gold mining operations were controlled by a special gold mining trust within the Dalstroy organization.[1] In 1939-1940 this trust was composed of seven administrative agencies, each in control of its own area. These agencies were

1) The Southern Mining Administration, which had jurisdiction over sixteen gold fields, including the principal fields of Srednikan, Borisikin, and others;

2) The Northern Mining Administration, which was in charge of twelve fields;

3) The Western Mining Administration, which controlled twelve fields;

4) The Southwestern Mining Administration, with eight fields under its jurisdiction;

5) The Northwestern Mining Administration, with six fields under its control;

6) The Chai-Urinsk Mining Administration, with eight fields therein; and

7) The Tenkino-Detrinsk Mining Administration, with four fields. However, it should be noted that, although these seven agencies controlled and directed the activities of 66 gold fields, some of them are spread over such large areas that they should be called groups of adjacent gold fields. Furthermore, it should be borne in mind that the fields east of the Kolyma estuary, which in 1940 were only beginning to be exploited, have not been included in the above tabulation. Information in this respect is nil.

466 The total number of prisoners who work these gold areas[1] is not known; however, according to estimates by prisoners who have managed to return after having served their terms and fled to the west, the normal number of prisoners at each field varies between 5,000 and 10,000 workers. The number reaches its highest peak in May or June of each year: the mining season begins in June at which time new groups of prisoners are arriving at Magadan from Vladivostok. However, by the end of the mining season, the total figure has again decreased due to the heavy death toll; this has been corroborated by Polish prisoners who worked in the Kolyma gold areas after the Soviet-German division of Poland. These same Polish army troops mentioned a camp on the Chukotsk Peninsula, where some 3,000 Polish troops were sent in August 1940. However, all 3,000 died while working in the lead mines, not only due to the usual bad conditions but also due to lead poisoning. Therefore, assuming that the number of prisoner-workers per field averages some 5,000 persons, there is reason to believe that there were at least 330,000 prisoners engaged in gold mining activities in Kolyma. Of course, this figure represents only an estimate for the known gold fields; however, it should be remembered that this total will be swelled by the numbers of women prisoners who are engaged in various other activities like agriculture, lumbering, among others. (Note: No reference has ever been noted where women prisoners have been utilized in the gold fields.) Furthermore, since vast new areas have been in the process of exploitation, including the construction of roads, it goes without saying that additional large number of prisoners are utilized for this purpose; also, there are other mining areas, such as those east of the Kolyma, whereat no doubt large numbers of prisoners are also engaged. Consequently, although no exact figures

[1] [i.e., the Kolyma region, Siberia -- Analyst]

are known regarding the total prisoner population, one thing is certain and that is that the entire Magadan enterprise is on a very large scale and that prisoners form the greatest majority of workers. Due to the fact that three known prisoner ships which were operating in 1940, the "Felix Dzherzhinskiy," "Uritsky," and "Dzhurma," are still plying the same Vladivostok-Magadan route, it is a reasonable assumption that the prisoner traffic is continuing. (Note: It is difficult to assume that these ships have changed the nature of their cargo inasmuch as it is definitely known that the holds of these ships were constructed in a special manner to transport large numbers of prisoners; although it is admittedly possible to change the internal structure of these three ships, it is dubious that this has been done, because it is known from reports from Radio Magadan that activities are being expanded throughout the Kolyma economy. Since the death rate has been so high in the past among prisoners, it is difficult to see how further development of the region could be undertaken without importing further number of prisoners every year.) 466

8) The City of Magadan: One of the results of Berzin's administration was the construction of the city of Magadan; by 1941 the population of this city had been estimated at approximately 70,000, composed of NVD officials and hired specialists who volunteered for service under the Dalstroy administration. It was further estimated that at that time there were some 50,000 such specialists scattered throughout the region. Another section of the population in the Magadan area, numbering a few thousands, was represented by exiles, mostly highly qualified experts whose work in Dalstroy had entitled them to some special privileges, although they are still subject to the NVD. Outside of the city of Magadan there were several big camps for prisoners with fluctuating populations. 361

The central streets of the city were lined with two- and three story houses. Electricity was provided by a power station which also supplied electricity to the taiga areas by means of wires strung over the surrounding mountain ridges.

The population of Magadan faced a problem in the procurement of foodstuffs. In an effort to relieve this situation, "Magadan has a large experimental farm equipped with hothouses. The latter already (1941) grew 'Kolyma' apples, pears, peaches, and even oranges, not to mention a variety of berries, while all kinds of vegetables are developed in the hotbeds, including cucumbers, cabbage, eggplant, muskmelon, and watermelon."[12] The chief problem in the attempts at agriculture was the geological ice. Repeated deep plowing of the soil, the use of fertilizer in great quantities, and similar measures have been used in scientific experiments and have achieved good results. Thus, in some places the ice formerly came to within one to two feet from the surface of the ground, but it has been pushed down to six or eight feet, which has made possible the cultivation of cereals. (Note: Agriculture in Magadan and the entire Kolyma region will be treated in a subsequent report.) 433 241

9) Summation: The entire Kolyma region is growing in importance constantly, and due to the produce obtained from this area, in addition to the increasing population, Magadan and the hinterland cannot be ignored or treated lightly. There are two general aspects of the Kolyma region which should be noted: 433

1) In the New York Times of 9 January 1946, it was reported that there is total gold supply in Moscow of between the wide range of two and ten billion dollars. The interesting aspect of this surmise is the fact that in 1925 or even in 1930 the Soviet government was forced to sell the treasures of Russian museums in order to pay for machinery that it had purchased abroad. Soviet gold has made its appearance only 433 436

12 Dallin, op. cit., p. 133.

during the years 1931 and 1934, and it continued to appear in increasing quantities even during the "Great Fatherland War" when the entire nation was absorbed in the defeat of the German armies. The Soviet Union was in great need of gold some twenty-five years ago, but the gold supplies have grown immensely since that time; the richest gold-producing area in the Soviet Union is Kolyma, and due to the known build-up of the area, it is a reasonable assumption that Kolyma is providing the Soviet Government with the majority of its growing gold reserves. It is this fact that makes Magadan and the entire Kolyma area of such importance, not only to the internal economy of the Soviet Union but also to the future of world politics, because it is a well-known fact that the Soviet Union will use any means at its disposal to increase its international prestige. It is not mere speculation that Soviet offers of economic assistance to foreign nations may have the backing of Kolyma gold. 436 433

2) The Kolyma region is intended to become a self-sufficient area, not only in agriculture but also in fishing and numerous other industries including the production of coal, oil, machinery, among others. A similar situation as was found in Sakhalin may also be said to exist in Kolyma--local self-sufficiency while exporting to the interior the products desired by the Communist planners. For Sakhalin it was concluded that the overall plan was for the Oblast to become self-sufficient while exporting to the mainland oil and fish products; for Magadan and Kolyma, it also appears that the overall picture calls for self-sufficiency while exporting gold to Moscow. 483

10: Laufer--361 E-3 (no date) 1917 Northeast Asia
116.756. 121

"ORIGIN OF THE WORD SHAMAN

In Chinese Clay Figures (p.198) the writer had occasion to discuss briefly the history of our word shaman, and to refer at the close of his naturally succinct note to the new theory of J. Németh, according to which the term should be an ancient constituent of the Turkish-Tungusian languages. The latter reference was an addition inserted in the proofs at the moment when Mr. Németh's article reached me (summer 1914), but since then it has been possible to scrutinize his theory at close range, with the result that it can be confirmed and even be supported with new data and arguments. As ethnologists may be expected to take an interest in the history of a term which has become part and parcel of anthropological nomenclature, and the origin of which has given rise to numerous discussions and speculations, a brief examination of the case might not be unwelcome to the readers of the Anthropologist."

10: Laufer-- 361 [2] E-3 (no date) 1917 Northeast Asia
116, 197, 756

"There could never be a serious doubt of the real source from which the word shaman is derived. We received it from the Russians; it was the Russian (chiefly Cossack) explorers and conquerors of eastern Siberia in the second half of the seventeenth century, who heard and recorded the term among Tungusian tribes. It was first brought to Europe by the Hollander, E. Ysbrants Ides, and by Adam Brand, who from 1692 to 1695 accompanied a Russian embassy sent by Peter the Great to China."

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-1-12
116, 197, 756, 114

"It is thus shown that our 'shaman' had its origin in the Tungusian languages, in all of which the word indeed is known as saman or saman, and with several other variations to be noted hereafter. It would be reasonable to regard the term as of native origin, for it is not likely that the name of a religious institution and function so characteristic of all the tribes of northern Asia should be borrowed from an outside quarter. Nevertheless it was possible that at a time when little was known about Siberian shamanism, and when rigid philological principles were not yet established, the theory could be advanced that Tungusian saman or saman were to be derived from the Chinese sa-men, itself a transcription of Pali samana corresponding to Sanskrit cramana, a technical term for the designation of a Buddhist monk or ascetic. The germ of this idea was well prepared as early as the eighteenth century. The Augustinian Pater A. Georgi(1) states correctly

1. Alphabetum Tibetanum (Rome, 1762), p. 222.

that the Samanaei mentioned by Clemens Alexandrinus(2)are the adherents of Buddha,

2. In fact Clemens avails himself of the form Sarmanai.

and in this connection refers to La Croze, who already hazarded the combination of the

Samanaei with the shamans of the Tungusians (le nom de schaman est un nom de religion d'un peuple tartare, voisin des frontieres de la Chine'). Sanskrit not yet being well known at the time of La Croze and Georgi, the origin of the Greek term Samanaioi escaped them; this is what the philologists of the nineteenth century supplied. (3)

3. Maturin Veyssiere La Croze was born at Nantes in 1661, joined the clergy, suffered persecution on account of his liberal views, fled to Germany, where he turned a Protestant in 1696, and was made a member of the Academy of Sciences of Berlin, where he died in 1739. His work Histoire du Christianisme des Indes, to which Georgi refers, unfortunately is not accessible to me. La Croze was a scholar of wide knowledge and linguistic ability: he was the first who had a presentiment of the relationship of Indian with Persian.

Which of them was the first to assert the connection of the Siberian šaman with the Indian term I am unable to ferret out; this point is immaterial, as the question is merely that of the history of an error. D. Banzarov(4) was inclined, without giving a specific

4. Černaya v'ära, p. 34 (see p. 366).

reference, to fix the responsibility on F. Schlegel, according to whom[363]the çramana among the crude tribes of Central Asia transformed themselves from hermits into shamans. I believe that Banzarov had in mind Friedrich von Schlegel (1772-1829), romantic poet and Sanskrit scholar, who published in Heidelberg, 1808, an essay under the title Über die Sprache und Weisheit dor Indier, ein Beitrag zur Begründung der Alterthumskunde. (1) This is the only one of his works in which such a statement might be

1. An English translation was edited in London, 1889, in F.v. Schlegel's Aesthetic and Miscellaneous Works.

supposed to occur, but on a cursory perusal of this book I am unable to trace it. The idea itself being romantic, there would be no reason to wonder that it took its root in the Romantic School. At all events it was alive in the first part of the nineteenth century. The French sinologue J.-P Abel-Rémusat(1788-1832)became a champion of this theory.(2)

2. Recherches sur les langues tartares (Paris, 1820), p. 133, and Observations sur la doctrine samanéenne et la triade suprême (Paris, 1831).

An ingenious scholar of the type of J. Klaproth (3) was capable of saying, 'Les peuples

3. Mémoires relatifs á l'Asie (Paris, 1828), vol. III, p. 67.

tartares ont sans doute reçu le mot chaman de l'Inde avec le bouddhisme, car il est Indien d'origine, et signifie un homme qui a vaincu toutes ses passions.' In 1857 Max Müller(4)

4. Chips from a German Workshop, vol. I, pp. 233-234.

of Oxford wrote,

> Shamanism found its way from India to Siberia via Tibet, China, and Mongolia. Rules on the formation of magic figures, on the treatment of diseases by charms, on the worship of evil spirits, on the acquisition of the supernatural powers, on charms, incantations, and other branches of Shaman witchcraft, are found in the Tanjur or the second part of the Tibetan canon, and in some of the late Tantras of the Nepalese collection.

Needless to add that the magical writings of the Tanjur are unknown to the shamans of Siberia and have nothing to do with Siberian shamanism. Still less is it intelligible how Müller could say that ' the only trace of the influence of Buddhism among the Chudic races, the Finn, Lapp, etc., is found in the name of their priests and sorcers, the

shamans.' The word shaman is foreign to any Finno-Ugrian language; it found its way into Finnish(shamani) and Hungarian as a scientific term only, in the same[364]manner as into the Indo-European languages. A. H. Sayce (1) has the following;

1. Introduction to the Science of Language, vol. II, p. 293

In shamanism, so called from the Shaman or Siberian sorcerer, who is himself but a transformed cramana, or Buddhist missionary priest, we rise to a higher conception of religion.

These superstitions were tenaciously upheld under the influence of the romantic movement of the pan-Indianism, which held the minds of scholars enthralled in the first part of the nineteenth century, and the germs of which are not yet entirely exterminated.

True it is that the Sanskrit word çramana with the Prākrit form samana has become widely known outside of the pale of India. It reached the ears of the Greek writers on India, who described the Buddhist monastics under such names as Sarmanes, Sarmanai, or Samanaioi. The first of these names was recorded by Megasthenes,(2) though the

2. Strabo XV, I, 59.

aingle text of Strabo from which all the existing codices have been copied offers the

erroneous transcription Garmanes. (3) The word has also passed into early Arabic

3. The texts in question are easily accessible in J. W. McCrindle, Ancient India as described in Classical Literature, pp. 65, 168, 170. See further C. Lassen, 'De nominibus quibus a veteribus appellantur Indorum philosophi,' in Rhein. Museum für Philol., vol. I, 1833. pp. 178-180, and Indische Alterthumskunde, vol II, p. 700; E. Burnouf, Introduction à l'histoire du Buddhisme indien, p. 245; T. Watters, Essays on the Chinese Language, p. 403; S. Levi, Journal asiatique (1911), I, p. 445.

records for the designation of the Indian and Bactrian Buddhists (for instance, in Masúdi, Gurdezi, and Abu'l Faradj) in the form samaniyya, while in later literature the form śaman was adopted. (4) In Firdausi's Shāhnāme, completed in A. D. 1010, we

4. Geza Kuun, Keleti Szemle, vol. IV, 1903, p. 133; G. Ferrand, Textes géographiques arabes relatifs à l'Extreme-Orient, vol. I, p. 131. The Mohammedan writers were perfectly conscious of the fact that the term hailed from India and denoted the

Buddhists of India and China. See particularly D. Chwolsohn, Die Ssabier und der Ssabismus (St. Petersburg, 1856) vol. I. pp. 165, 214, 217, etc. As far as I know, the shamanistic religion of Siberian tribes is not mentioned by any early Arabic or Persian author.

find saman in the sense of a worshipper of idols, and this Persian word likewise is traced to Sanskrit cramana and its congeners. (5) Again, it bears no relation to 'our'

5. P. Horn in Grundriss der iranischen Philologie, vol. I, pt. 2, p. 7;K. Vullers (Lexicon persico-latinum, vol. I, p. 466) renders the term by idololatra and idolum.

or the [365] Siberian shaman but evidently refers to Indian Buddhists, for these śamans say 'Our religion is one of peace and quiet, and fighting and slaying is prohibited, as well as all kinds of shedding of blood.' (1) Finally the Indian word has been traced in the

1. Compare the quotation in H. Yule, Hobson-Jobson, P. 820.

newly discovered Indo-European language styled Tokharian in the form samāne; and

this induced A. Meillet to formulate the opinion that the Tokharian form (not a Prakrit form of Sanskrit çramana) would account for the Tungus word šaman. (2) With all

2. A. Meillet, 'Le Tokharien,' Indogermanisches Jahrbuch (Strasburg, 1914), vol. I, p. 19.

respect due to the scholarship of this eminent philologist it must be admitted, however, that there is a far cry from Tokharian to Tungusian, that there is no evidence for any contact of these two groups, and that the Tungus notion of a shaman is radically different from the conception of a Buddhist monk. If two words in geographically remote languages are physically alike or similar, but fundamentally diverse in meaning, it is safe to assume that the face resemblance is purely accidental.

Indeed this theory was brilliantly antagonized as early as 1842 by W. Schott, and H. Yule, (3) accepting his verdict, reached the conclusion, 'Whether the Tungus word is

3. Hobson-Jobson, p. 820

in any way connected with this or adopted from it [that is the Sanskrit-Pali term], is a doubtful question. 'Schott has devoted no less than three studies to this

problem (4) in which he endevored to dissociate saman from samana. His arguments

4. 'Über den Doppelsinn des Wortes Schamane und über den tungusischen Schamanen-Cultus am Hofe der Mandju-Kaiser,' Abhandlungen Berliner Akademie, 1842, pp. 1-8; 'Wohin gehört das Wort Schamane?' in his Altaische Studien, no. 3, ibid., 1867, pp. 138-141; and 'Das Wort Schamane,' in Erman's Archiv fur wissenschaftliche Kunde von Russland, vol. XXIII, 1865, pp. 207-210.

are briefly as follows: the Chinese strictly descriminate between Manchu saman (shaman) and Sanskrit çramana, and never confound a shaman and a Buddhist monk, the two having totally diverse functions; a direct or indirect connection of Tungusian tribes with India is unproved; Buddhist missionaries never advanced into regions inhabited by Tungus (5)[366]

5. As emphasized in my article 'Burkhan,' Journal American Oriental Society (1917), pp. 390-395, there is no trace of Buddhism in the religion of the Tungusian peoples on the Amur.

it would be strange if they should have borrowed the only word in their language for the designation of their national priests; the forms of shamanism are uniform in a vast

territory extending from Lappland to the Bering Sea and far beyond into America; Vasilyev's hypothesis that shamanism should be a caricature of ancient Buddhist sorcery and jugglery and have been brought into existence by such influences is a mere phantom; the outward resemblance of the words saman and samana is purely fortuitous. Schott's etymological explanations of the word from Samoyed are not convincing, but his remark that Tungusian sam possibly is anciently related to Turkish kam testifies to great foresight and ingenuity; and this thesis, as will be seen, can now really be proved. Also Ch. de Harlez (1) joined the ranks of the adversaries of the Indian hypothesis, reiterating in

1. La Religion nationale des Tartares orientaux (Bruxelles, 1887), p. 28.

the main Schott's arguments. In Russia, it had been severely criticized as far back as 1846 by Dordji Banzarov, a Buryat and an excellent Mongol scholar. (2) Nevertheless

2. His works were collected and edited by Potanin in 1891 under the title Cernaya v'ara ili samanstvo u Mongolov i drugiya stat'i ('The Black Faith or Shamanism among the Mongols and Other Articles'). Regarding the word shaman see p. 34.

in Russian dictionaries also the nightmare of the cramana is perpetuated. (3) As it

3. For instance, in Gor'aev, Sravnitelny etimologiceski slovar' russkago yazyka, p. 418.

happens, twilight reveries appeal more to the multitude than plain reason and continue to live even if abandoned by the thinking minority; it is not always the best and fittest that survives. The ghost of the Indian çramana still haunts the poor shaman in our standard dictionaries and cyclopaedias (see Webster, Nouveau Larousse, and Littre, Dictionnaire de la langue française; Schaff-Herzog Religious Encyclopedia, vol. X, p. 385; Funk and Wagnalls' Dictionary offers even a 'Persian-Hindustani shaman, pagan'!) (4) It is a relief, therefore, to read in the new Oxford Dictionary,

4. Even in the 7th edition of O. Pexchel's Völkerkunde (p. 274) the cramana still holds way.

The Persian shemen, idol, idol temple, sometimes cited as the source, is unconnected. Evidence seems to be wanting for the plausible suggestion that the Mongolian word is an adoption of Chinese sha men, an ordained member of a Buddhist fraternity.

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-12
116, 197, 756, 114

Eliminating 'plausible' and substituting 'Tungusian' for [367] 'Mongolian' this statement marks a progress in lexicographical literature. So there is hope that our great-grandchildren will perhaps be treated to a correct definition in the dictionaries of the following century."

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-1-4
116, 114, 171, 197, 756

"The Hungarian scholar J. Németh (1) has attacked the problem in the right spirit,

1. 'Über den Ursprung des Wortes Šaman und einige Bemerkungen zur türkischmongolischen Lautgeschichte,' Keleti Szemle, vol. XIV, 1913-14, pp. 240-249.

and ably solved it by means of a sane philological method. A schooled phonetician, he has successfully worked for several years on the phonetic history of the Turkish and Mongol languages and established very interesting correspondences of phonetic phenomena in these two linguistic families. In the study cited he advances the law that primeval Turkish initial k' (palatalized k) has developed into Tartar k, Čuva j, Yakut x (spirant surd as in German ach), Mongol ts, č, and Manchu-Tungusian s, ś, or ś. He gives seven examples to this effect, the first of which is:

Turkish (Uigur and in the dialects of southern Siberia) kam or anciently q'a m (shaman), in some dialects kŭär, dum (with such derivations as kamdi, to prophesy; kamla, to heal; kamna, to shamanize; etc.). Čuvaš jum, jumeś (shaman); im-jum (durative charms). Manchu saman, Golde sama, š'ama, Olča šam, Oročon s'ama, Tungus on the middle Amur saman, Tungus of Udsk saman and šaman, Kondogir and Wilui Tungus xaman.

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-2
116. 114. 171, 197, 756

Németh concludes that the origin of the much disputed word 'shaman' is thus definitely solved, and that it is an ancient property of the Turkish-Mongol languages. The phonetic alternation determined by him is perfectly correct and Manchu-Tungusian sam, s'am, or šam (2) is indeed the exact phonetic equivalent of Turkish kam. (3) Apart

2. This in fact is the stem of the word, not as formerly believed by some scholars, sa-, which was explained from Manchu sa- (to know). Németh justly rejects this derivation. By the way, Schott, the father of this etymology, disavowed it himself in his second treatise on the word shaman, quoted above. D. Banzarov (l.c., p. 35) justly recognized sam as the stem.

3. It was hitherto believed that the word for shaman was different in all languages of Siberia, while there is a fairly uniform designation for the female shaman (udagān, utygan, ubakxan, etc.). Hence V. F. Troščanski (Evolutsiya černoi v'ary [šamanstva] u Yakutov. 'Evolution of the Black Faith among the Yakut,' Kazan, 1902, p. 118) was prompted to the theory that the Siberian tribes originally had only female shamans, and after the time of their separation instituted also male shamans. This reconstruction is contestable on many grounds; for instance, we have male and

> female shamans . [368] co-existent in the most ancient days of China. The supposition on which the conclusion is based is now no longer valid: the word for the male shaman is in fact identical throughout from the Turkish to the Tungusian and Gilyak tribes.

from the Tungusian series noted by Németh [368] after Grube's Goldisches Wörterverziechnis, several other forms of the word have become known. De la Brunière (1)

> 1. In H. E. M. James, The Long White Mountain or a Journey in Manchuria (London, 1888), pp. 433, 434

recorded it in 1846 among the Golde as tsama or tsamo. I heard only s'ama from the Golde, in the same manner as Shimkevič, (2) but in view of the existence of several

> 2. Materialy dl'a izučeniya šamanstva u Goldov. p. 8.

Golde dialects such a form many be regarded as possible. A Rudnev (3) noted from a

> 3. Novyia dannyia po živoi mandžurskoi r'äči i šamanstru (New Data

on the Live Manchu Speech and Shamanism), p. 9.

Manchu, who was still conversant with his mother tongue, the following: sáma, sáman, sáma (nasalized a), and sāmăn.

The Gilyak style the shaman čam (tšam). This certainly is a loan-word received from Tungusian, (4) but it is not necessary to assume that the change of the initial š

> 4. There is no doubt that the shamanism of the Gilyak is derived from and a weak echo of that of the neighboring Amur tribes. There are but a few shamans among the Gilyak, and shamanizing is rarely practised by them (see for the present L. von Schrenck, Reisen und Forschungen im Amur-Lande, vol. III, p. 752).

or s into the palatal explosive surd is due to the Gilyak; for this alternation is common within Tungusian, so that a Tungusian čam borrowed by the Gilyak may be presupposed for some Tungusian dialect spoken in the neighborhood of the Gilyak. Compare the following examples: Manchu nesuken and nečin (equal)--Jučen nušin; Manchu ničuxe (pearl)--Old Jučen inšuko or inšuxa, modern Jučen ninčuxe; or vice versâ, Jučen ančun (gold)--Manchu aisin."

10: Laufer--368-370 - E-3 (no date) 1917 Northeast Asia-1-5
116. 114. 177, 197, 756

"It has been said that the word šaman is found only in the eastern part of Siberia and in Manchuria. There is, however, one well-authenticated instance on record to the effect that it was known also in northwestern Siberia. In the earliest account that we have of the Irtysh-Ostyak, written in 1715 by G. Novitski, their priests were styled šamančik.(5)

5. B. Munkácsi, Keleti Szemle, vol. IV, 1903, p. 88.

In view of the early date of this record we cannot well assume that this is a loan-word recieved through intercourse with the Russians. Whether the term still exists I [369] am unable to say from the sources at my disposal. S. Patkanow (1) gives for the

1. Die Irtysch-Ostjaken, pt. I, p. 120.

shamans of the Ostyak only the name tonx-ort. (2)

2. Consulting Castrén's vocabulary in his Versuch einer ostjakischen Sprachlehre I find that tonx means idol, and ort, workman, slave. If accordingly tonx-ort should mean servant of the idols, the term might hardly be claimed as a primeval designation of the shaman.

10: Laufer--368-370 E-3 (no date) 1917 Northeast Asia-2
116, 114. 177, 197, 756

The Turkish word kam is of ancient date(3)It is attested (and this is its earliest occur-

3. The Russians have derived from it the verb kamlat' (to shamanize, to conjure, to spell, to prophesy) and the noun kamlanie (the act of shamanizing).

rence) in the Chinese Annals of the T'ang dynasty (618-906), where it said with respect to the Kirgiz(4) that they designate their sorcerers or shamans (Chinese wu) with the word

4. Regarding this name and its ancient Chinese transcriptions see Pelliot and Laufer, T'oung Pao, 1916, p. 295.

kam. The last character now reads kan, but was anciently possessed of a final labial nasal, which is still preserved in the dialects of southern China. Chinese wu is a very ancient term for the native medecine-men.(5) The word kam, further, is found in Uigur(6)

5. Regarding their activity see Chinese Clay Figures, pp. 109-200.

6. In the Kudatku Bilik, written in A. D. 1068 (H. Vámbéry, Uigurische Sprachmonumente, p. 221).

and in the Codex cumanicus of 1303. (7) It is also used by the Persian historian Rashid-

7. W. Radloff, Aus Sibirien, vol. II, p. 67. Nemeth overlooked these data but it is important to note the wide distribution of the word in time and space.

eddin (1247-1318) in 1302, with reference to the shamans of the Mongols. (8) The existence

8. F. Von Erdmann, Temudschin, p. 553, E. Blochet, Introduction à l'histoire des Mongols de Rashid Ed-Din, p. 165.

of the Tungusian word šaman can now be traced to the first part of the twelth century, for Pelliot (9) has found it as a Jučen word in a Chinese gloss, where it is transcribed in the

9. Journal asiatique, 1913, mars-avril, pp. 466-469.

form šan-man and explained as a sorceress. The Chinese transliteration would presuppose Jučen form šamman. Indeed we still meet forms with double m in the dialect of the Wilui Tungus, --samman and xamman. (10) The latter with initial spirant represents the

10. Recorded by R. Maack, Wil'uski okrug (The District of Wilui), pt. 3, p. 116.

missing link between Turkish kam (in the language of the Soyot or Urangkhai xam) and the Tungusian forms with initial sibilant. The [370] alternation of k and x is well known, (1) likewise x, h, and s, alternate in Tungusian dialects. (2) For this reason

1. W. Radloff, Phonetik der nördlichen Türksprachen, p. 108.

2. A. Schiefner, Melanges asiatiques, vol VII, 1877, pp. 338-339.

it is justifiable to correlate the forms kam and xam with Yakut xammā, xamsā (to move, to be agitated; xām, to step, to stride), (3) and to interpret the significance of the word

3. O. Böhthingk, Jakutisches Wörterbuch, P. 79.

from the shaman's peculiar behavior, his solemn and pompous pacing, his ecstacy, his convulsions, his frantic leaps and dancing. (4)

4. This explanation was first given by V. F. Troščanski, Evolutsiya černoi v'äry (šamanstva) u Yakutov (Evolution of the Black Faith among the Yakut),

(Kazan, 1902), p. 117. D. Banzarov (Černaya v'ära, p. 35) held a similar view, but arrived at it through a different process by connecting the word with Manchu samarambi and Mongol samoromoi, samagu; aside from the fact, however, that these words do not have the meaning required, or forced into them by Banzarov, they can by no means be reduced to the stem sam.--Kam is not a Yakut word for the shaman, as wrongly stated by A. van Gennep ('De l'emploi du mot "chamanisme,"' Revue de l'histoire des religions, vol. 47, 1903, p. 52, the Yakut term is oyun."

10: Laufer--370-371 E-3 (no date) 1917 Northeast Asia-1-3
116, 114, 197, 756

"Németh gives no form of the word for Mongol, and explains the absence of a corresponding word in this language through a characteristic trait of the Mongols to whom the use of many words was tabooed; owing to such a taboo, the word šaman should have been lost. This is an arbitrary, far-fetched, and unnecessary theory. First of all, the word šaman does occur in Mongol, at least it is listed as a Mongol word in Kovalevski's and Golstunski's Mongol dictionaries. Whether it is frequent is another question. I never found it in a Mongol text. This is accounted for by the fact that the common term for a shaman in Mongol is bügä, bögä, Buryat buge and bö, corresponding to Turkish bögü, Djagatai bügi (sorcery), bügiči (sorcerer), Osmanli büi (sorcery).(5)

5. According to I. J. Schmidt (Geschichte der Ost-Mongolen, St. Petersburg, 1826, p. 416), kami should be the Mongol name of the shamans. It would hardly be necessary to point out this blunder, had it not been immortalized in Yule's Hobson-Jobson (p. 820). There is no Mongol word kami with such a meaning. Schmidt found it in the Mongol chronicle of Sanang Setsen as the proper name of a Tibetan Bon-po, and this name reads correctly Khami or Xami. Schmidt's interpretation, evidently suggested by Turkish kam, is baseless and purely imaginary.

This series seems to bear some kind of relation to Chinese bu, wu (shaman), buk, puk (to divine), and Tibetan aba (pronounced ba, sorcerer); (6) but how [371] this

6. Compare my concordance in Toung Pao, 1916, p. 68.

relation is to be explained is beyond our present knowledge. The type kam--sam is possibly preserved in Mongol in a somewhat disguised form. According to the phonetic law established by Németh, the Mongol initial corresponding to Turkish k and Tungusian s should be ts, č. Thus we get at Mongol tsam, čam, that means a dance, and at present refers in particular to the religious pantomimic dance-performances of the Lamas in which, as is well known, many ancient shamanistic notions and rites of pre-Buddhistic times have survived. The same word in the same sense is encountered in Tibetan as č'am or ts'am (written ač'am), and it would be justifiable to regard the Mongol as a loan-word adopted from Tibetan; (1) but considering the fact that the

1. In a forthcoming study on Loan-Words in Tibetan, where an almost complete list of Mongol loan-words occurring in Tibetan is given, the writer has set forth the difficulties in recognizing the mutual loan-words

of the two languages. Mongol and Tibetan have a certain number of words in common, partially due to a prehistoric contact, partially due to allively intellectual interchange in historical periods; and it is not always possible to decide in each and every case which side is the recipient, and which the borrower.

word is isolated (that is, not found in any other Indo-Chinese language), it is likewise permissible to stamp the Tibetan as a Mongol loan. For the rest, I give with all reserve this theory of a possible connection of Mongol tsam with Turkish-Tungusian kam--sam (religious dancer).

At any rate it is obvious that the word šaman has now legitimately secured an absolute and irrevocable decree of divorce from its pseudo-mate çramana, samana, or ša-men, and that this mismated couple cannot live together any longer. Tungusian saman, šaman, xaman, etc., Mongol šaman, Turkish kam and xam, are close and inseparable allies grown and nourished on the soil of northern Asia, --live witnesses for the great antiquity of the shamanistic form of religion."

/7/ FORWARD

121

Having been occupied for years with drawing up a comprehensive scientific study of the land of the Soviet Union, I have decided to cut off a piece of this country and to postpone the description of the whole country. For this I have selected the Far East for specific, authoritative reasons. It is of course known that Russia and also the Soviet Union transfer the emphasis in their political activity according to the circumstances at the time. At one time it lies in Europe, i.e. in the extreme west as viewed from the total expanse of Russia, and then again it lies in the opposite section of this immense empire, which the Russians and we too designate as the Far East. The latter is at present the case: the Soviet Russian Far Eastern regions constitute a base and a point of departure. The description of these regions in their basic geographic traits and in their economic bases and problems is the main task assigned to this work.

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The present work rests both on my own knowledge obtained on my trips and on detailed study of all available literature. My personal knowledge is limited, to be sure, to only a part of the Soviet Russian Far East; but nevertheless I have not hesitated to treat all regions. Decisive for me in this connection was the thought that even the best known Russian geographers, to whom we are indebted for a description of the entire Russian area, were acquainted with only part of the land from their own experience, and for the rest they had to rely on other researchers, their descriptions and findings. I may assert the same for the present work. In this connection it must be stated that Soviet scientific research has done work worthy of recognition. It is only regrettable that the numerous and valuable results of this research are not made accessible to foreign science. This applies to important branches of research in geography and especially to economics.

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In the subtitle this work is designated as a survey of the land and the economy, and it also shall not be more nor less than that. The space at my disposal doesn't permit going into great detail on the historical development or on the individual regions in the special section, as perhaps might be /8/ desired. It would have been possible; but it would have required volumes. Accordingly the treatment was consciously limited to broad lines in order to give, in addition to an overall view, a clear picture of the individual parts. In the

121 process much had to be dispensed with, and much investigation going into detail had to be left by the wayside in the interests of the whole. For the same reason the simplest possible presentation has been chosen for treating the subjects, without thereby reducing the scientific character of the work. In everything I have been led by the conviction that the present work would fill a gap existing not only in German literature but also in the general literature.

Since the natural resources of the land are of striking importance as a basis for the economy and its perspectives, treatment of the resources was given additional space, and, in conjunction with the past and clearly recognizable uses of the resources, an attempt was made to point out tendencies in the economic development. Only all the available sources and reports could be used for this because of the lack of official data, and, after careful consideration and critical evaluation, they were employed for judging economic progress and its problems. On this subject it is better to say too little than too much.

000 I owe thanks to many friends for much advice and many suggestions in drawing up the work and also for providing me with material. Very special thanks I owe to Prof. Dr. h.c. H. Lautensach, Stuttgart, Prof. Dr. G. Ipsen, Dortmund, Forest Master Dr. E. Buchholz, Reinbeck bei Hamburg, and Dr. H. Klocke, Wiesbaden. Last but not least I wish to thank Prof. Dr. Arved Schultz, Düsseldorf, my especially deserving teacher in the field of geographical research in the east; I will always remain bound to Prof. Schultz, who this year celebrated his seventieth birthday.

The Osteuropa-Institut, Munich, and its director, Prof. Dr. H. Koch I thank for accepting the work in the series of publications put out by the institute.

Munich, May 1953

Erich Thiel

HEADQUARTERS
UNITED STATES ARMY FORCES, FAR EAST
AND EIGHTH UNITED STATES ARMY (REAR)
Office of the Psychological Warfare Officer
APO 343

ANALYSIS #070156

Mlynarchik/hy/266-2755
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000 USSR: MAGADAN, CAPITAL OF THE KOLYMA GOLD EMPIRE

Part I: The Rise of Magadan (1927-1946)

1) Introduction

2) Physical Features of Kolyma

3) Administration

4) Population

5) Development of the Kolyma Area (1927-1931)

6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932

a. The Leadership of Berzin (1932-1937)

b. Violence under Garanin (1937-1938)

c. Blundering of Vyshnyevetsky (1938-1941)

d. The Regime of Nishikov (1941-present?)

7) The Kolyma Buildup (1932-1946)

8) The City of Magadan

9) Summation

Part I. The Rise of Magadan (1927-1946)

316 466 1) Introduction: Until the early 1930's the Kolyma region in the northeastern section of Siberia was practically deserted; the only population consisted of several native tribes who were engaged primarily in reindeer breeding. Approximately 175 independent miners were also in the area for the purpose of extracting gold from the rich fields around the Kolyma River; however, in 1931 the Soviet Government, at that time completely lacking gold reserves, began one of its largest enterprises until that time—the exploitation of Kolyma gold on an increasing scale. Labor was primarily prisoners, both criminal and "counter-revolutionary," who were sent to the Magadan area by the hundreds of thousands yearly in an attempt to build the area into a self-sufficient region with only one mission—ship every available ounce of gold to Moscow.

115 121 The information contained in this report is primarily derived from published reports made by prisoners who have returned from the Kolyma area after having served their prison terms as forced laborers. Although admittedly this report is historical in nature rather than a concise evaluation of the present situation, it was considered appropriate, due to a lack of general information and knowledge of the area, to present

115 121 a survey of the development and buildup of the Magadan-Kolyma area with the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

[134 634] 2) Physical Features of Kolyma: Kolyma is that region in the northeastern part of Siberia, named for the Kolyma River; the boundaries have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 631 471 Be that as it may, there is ample evidence to support the contention that neither of the two above cited political divisions are technically correct; due to the establishment of Dalstroy (Far Eastern Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 625 3) Administration: The Constitution of the USSR is not formally operative throughout this vast area[1] (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

[1] [i.e., the Kolyma region of Siberia — Analyst]

10: Laufer--361 E-3 (no date) 1917 Northeast Asia
116, 756, 121

"ORIGIN OF THE WORD SHAMAN

In Chinese Clay Figures (p. 198) the writer had occasion to discuss briefly the history of our word shaman, and to refer at the close of his naturally succinct note to the new theory of J. Németh, according to which the term should be an ancient constituent of the Turkish-Tungusian languages. The latter reference was an addition inserted in the proofs at the moment when Mr. Németh's article reached me (summer 1914), but since then it has been possible to scrutinize his theory at close range, with the result that it can be confirmed and even be supported with new data and arguments. As ethnologists may be expected to take an interest in the history of a term which has become part and parcel of anthropological nomenclature, and the origin of which has given rise to numerous discussions and speculations, a brief examination of the case might not be unwelcome to the readers of the Anthropologist."

113, 13 Siberia RR1

/For data on the physical geography, geology, climate, flora, fauna, and soil of the mountains of Northeastern Siberia, see 58: Berg, R1 Soviet Union, cat. 116, pp. 311-317. --Analyst. /

113, 13 Siberia RR1

/For data on the physical geography, geology, climate, flora, fauna, and soil of the forest zone in Siberia, see 58: Berg, R1 Soviet Union, cat. 116, pp. 22-39. --Analyst/

113, 13 Siberia RR1

/For data on the physical geography, geology, climate, flora, fauna, and soil of the tundra zone in Siberia, see 58: Berg, R1 Soviet Union, cat. 116, pp. 2-21. --Analyst/

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR 1

PREFACE

This book, though self-contained, is the continuation of *Russia and her Colonies*. It deals with Russian colonization and Soviet nationalities (colonial) policy in a vast territory which I have described, for lack of a better term, as the 'Soviet Far East'. From the official Soviet point of view, the Soviet Far East comprises all territories of the U.S.S.R. situated to the east of Lake Baikal. It covers the Autonomous Republics of Yakutia and Buryat-Mongolia as well as the whole expansive Pacific coastal areas of the Soviet Union reaching from the Bering Straits down to Vladivostok. On the whole, I have accepted this official definition of the 'Soviet Far East' but I have added to it the Mongol People's Republic, the former People's Republic of Tuva, and a number of small nationalities which are closely connected with the latter.

Few foreigners have visited the Soviet Far Eastern territories during the last fifteen or twenty years and most of these few were not exactly 'visitors' but were inmates of Far Eastern forced labour camps. Some of them, like Mrs. Elinor Lipper, have written moving and revealing accounts of their experience, but naturally they could not deal with the problems of Soviet colonial policy in the Far East except in a few casual though valuable remarks. The only group of foreigners given a chance to travel extensively as tourists in the Soviet Far East and to visit even such normally prohibited places as Magadan and Irkutsk consisted of the former United States Vice-President, Henry Wallace and his entourage. The Wallace trip took place under the close supervision of the Soviet Police Ministry. This fact alone made it impossible for Mr. Wallace and the members of his mission to get access to the more essential relevant material on Soviet colonial policy in the Far East.

The isolation of the Soviet Far East from the outside world was completed in the second half of 1948. In August of that year the only Western diplomatic representation in the whole of Soviet Asia, the American Consulate-General in Vladivostok, was closed down at the request of the Soviet authorities. On September 30th, 1948, the Soviet Ministry of Foreign Affairs issued a circular which listed as forbidden areas practically all administrative units of the Far East from Irkutsk to Vladivostok.

/9/ A. GENERAL SECTION

/10/ /blank/

/11/ THE NATURAL CONDITIONS

Significance, Location, and Size

Soviet Far East: Bracketed under this name are all the Soviet 131
Russian eastern regions, whose waters empty into the Pacific Ocean, which lie predominantly under the climatic influence of the Pacific, and which morphologically have a certain demarcation from the other parts of the Soviet Union through high mountain ridges. It is the entire Pacific coastal area from Vladivostok in the south to the Artic expanses of the Chukchi Peninsula in the north. Soviet Russian science also comprises in its term "Dal'niy Vostok," /Far East/ the same region circumscribed here, and accordingly follows the major division of Asia drawn up by Carl Ritter and Ferdinand Freiherr von Richthofen. According to this division, the entire peripheral eastern slope of the continent is designated as "East Asia." The hinterland of the coastal border belongs to the Far Eastern region insofar as its waters empty into the Pacific Ocean, and the natural demarcation is clear. However, in this work Lake Baykal is set as the western border, and a few words are necessary justify this. Transbaykal, which lies between Lake Baykal on the west and the Argun, the right source river of the Amur, does not comply fully with the above prerequisites. It has a transition position; for, it belongs only partly to the river area of the Amur and partly to that of the Yenisey and the Lena. It also doesn't fit into the Russian concept of "Dal'niy Vostok," here it should not be brought into the concept of the real Far Eastern regions either. However, the transportation and economic connections of Transbaykal are linked much more with the east than with the west; it is linked specifically with the Far East in the broadest sense. One could try to designate Transbaykal directly as the platform of the position of the Soviet Union in East Asia. Here begins the Amur, which has pointed the way to the east for the Russians and which the Russians have followed with a land route and a railroad. Transbaykal is further the starting point both for traffic lines laid by the Russians through Manchuria to the Pacific and also for old historical routes

● 131 through Mongolia to China, routes which are no less important at present. For these reasons the inclusion of Transbaykal in the comprehensive overall concept of the "Soviet Far East" seems not only justified but even necessary for better understanding of how things fit together.

/12/ Through the Far Eastern regions the Soviet Union has a continental coast on the Pacific, which is more than 10,000 kilometers long, and through this she has become an important neighbor /Anlieger/. The outcome of World War II has brought the Soviet Union into possession of southern Sakhalin and the Kurils. With this the Japanese protective chain of the Kuril was eliminated, and the Sea of Okhotsk, with an area of 1,530,000 square kilometers, became for all practical purposes an internal sea of the Soviet Union; and it is now even officially regarded as belonging to the national sphere of the USSR. This pressure of Soviet power toward the Pacific Ocean has resulted in broader prospects of naval development for the Soviet Union than in the past, since the naval development had had to be limited to the continental coast. In this connection, Sakhalin Island, pointing [312] toward the Japanese island empire and separated from Hokkaido only by La Perouse Way, scarcely 50 kilometers wide, deserves special attention since, through a dam completed in 1952, it has been linked to the continent and for all practical purposes has become a part of the continent. With the southwest side of Sakhalin and the Maritime Krai, the Soviet Union now lies also on the Sea of Japan. Through her large section on the coast and through her possession of the islands extending in front of the coast, the Soviet Union has the prerequisites, not everywhere favorable but still sufficient, for developing into a Pacific sea power. Even though the Russians, being a continental people, have in the past always given preference to land routes, there are still numerous indications that the sea also is not foreign to them. If the Soviet Union still today does not take the corresponding position, that does not mean that it must always remain so. Pretensions to such a position have very probably been proclaimed in the intensive building up of the various harbors for military and trade purposes.

The greatest importance of the Far Eastern region for the Soviet Union lies in the fact that it guarantees access to the open sea to this strong continental power. Although the usefulness of the individual ports on the ocean within the Soviet Union's national territory is impaired and their importance reduced by unfavorable natural conditions, these ports exist, and their shortcomings have become a

principal motive for building them up individually, for broadening the general access to the sea, and for forming better and easier access through new routes, whether or not these routes lie through the Soviet Union's own territory. Probably in no country in the world has the natural striving toward the sea come out so clearly in history as in Russia, where the strivings have been toward the east to the shores of the Pacific Ocean. This was first reached in 1649 on the Sea of Okhotsk. Okhotsk formed the first point of departure for undertakings along the coast and on the sea. However, the long, difficult route from the hinterland and the harsh climate caused the Russians to go further to the south in their search. New hopes were awakened in them by the discovery of the great Amur River at whose mouth they /13/ expected to find a favorable exit to the sea. But soon they learned that here, too, the goal had not been attained. Their view shifted searchingly further along the coast to the south, to regions more favorable climatically. They discovered a suitable natural bay, which, in their exaggerated hopes, they designated as the eastern "Golden Horn." Vladivostok came into existence. But here, too, ice blocks the entrance for three months, and the entrance can be kept free only laboriously with the help of strong ice breakers. In the groping search for a favorable harbor the Russians later came to the Liaotung Peninsula where in Dalny' /Dairen/, the "Distant," another good natural harbor was found and made secure by the neighboring naval harbor, Port Arthur. The Russians were little disturbed that the two last-named harbors lay in foreign territory. An agreement with China was soon reached, and after a short time railroad tracks led from Transbaykal right through the middle of Manchuria to Vladivostok and to Dalny', which the Japanese later renamed Dairen. But even here development in the striving for a connection with the outer world does not appear to have been concluded. Already a railroad line stretches from Ulan-Ude in Outer Mongolia to Ulan Bator. Only a stretch of around 800 kilometers, which even now can be traveled by trucks the entire year, is still to be built, and with this the railroad track in Kalgan will be connected with the railroad line which leads via Peking to the harbor of Tientsin. In this fashion a new, additional exit to the sea would be attained. The prerequisite for this development, of course, is that the neighboring states, in this case Outer Mongolia and China, don't put up any resistance to these strivings and find themselves in political-economic harmony with the great continental power in the north.

• 131 The pivot of this circle in its movement from north to south, from the mouth of the Amur to Tientsin, lies in Transbaykal, from which radiate the main traffic lines in these directions. The radius of this circle has currently been shortened by the airline from 2,250 kilometers to around 1,600 kilometers.

If Transbaykal thus represents the point of departure for the power position of the Soviet Union, this region's large share in the total area of the Far East constitutes a foundation; for through this region the Soviet Union has also become an East Asian land power, which is undoubtedly very conscious of its position as such. The fact that Manchuria is surrounded /by Russia/ on the northwest, north, and east and the fact that the railroad lines to Vladivostok and Dalny' /Dairen/ run through Manchuria brought this Chinese region under the economic influence of the Russians even in Czarist times. When as a result of the outcome of World War II the Russians won back the positions in Manchuria which they lost from 1903 to 1940, the Russians were again in possession of or had the use of the main railroad lines in Manchuria and the harbors in /14/ southern Manchuria. This means for the Soviet Union again an extension of her economic sphere of influence, which at least equals that of the Czarist empire at the time of its greatest power, and even far exceeds this if consideration is taken of the political events and proceedings of the last few years in East Asia.

185 311 In this the strength of the Soviet Russian position in East Asia depends essentially on the development of her own Far Eastern regions. The present state of colonization and the economy both in Transbaykal and in the real Far Eastern regions shows that these are only at the beginning of their development. Up to now only a small percentage of the land suitable for agriculture has been brought under cultivation, and the exploitation of the natural resources has begun only in small areas. However, the progress which has been made in these spheres even during the Soviet regime reveals that this regime is determined to continue to give the necessary stress and upsurge to the favorable beginnings. The preferred, planned colonization shows this; and the tendency apparent in recent years to lead stronger forces into the industrial sector also indicates that the Soviet Union has the intention of creating in these regions a balanced economy in which all natural resources are given equal recognition. The planned economy of the Soviet Union, which intends to give as self-sufficient as possible a position to all the large economic areas, is especially

clearly manifest here; indeed, the distance and the remoteness of this region from the economic centers of the total union even force them to pursue this policy. In this, a role is not only played by the basic thought of populating these remote but well-situated regions, but also of making them as self-sufficient and strong economically as possible. The opportunities which are given the Soviet Union here cannot be estimated. They are great; only time is required to exploit them.

In connection with the above statement the unique position which the Far Eastern transportation network occupies within the Soviet Union as a whole, deserves to be brought out. A look at the map shows that the entire, complicated railroad network in the western part of the Soviet Union comes together into a single railroad line as it heads toward the Far East. This crosses the Yenisey at Krasnoyarsk and runs as far as Ulan-Ude in Transbaykal. Only here does it begin to split up and to develop into a transportation network, insofar as one can speak of such a thing in the Far East. On this single railroad line, which does, however, have two tracks, depends the entire connection of Transbaykal and the Far Eastern region with the rest of the Soviet Union. Even the completion of the Baykal-Amur line does not eliminate the bottleneck at Krasnoyarsk, and accordingly /15/, a certain self-sufficiency is the result of the development of the railroad network in the Far East.

Transbaykal and the Far Eastern region represent the extreme border position of the Soviet Union in East Asia. As remote border regions, they are really the Far East for the European part of Russia. One sees the sun rise and set eight times before one, coming from Leningrad in the Siberian Express, reaches Chita, the capital of Transbaykal, and another day and a half passes before one arrives in Vladivostok. More than 8,000 kilometers by air lie between the western and eastern borders of the Soviet Union. Chita is 6,236 kilometers by railroad from Moscow; Vladivostok is 9,333 kilometers from Moscow via Khabarovsk, and still 8,312 kilometers via the north Manchurian line by direct route.

But even within the Soviet Far East, a distance which seems extraordinary to the European has to be covered to travel from one end to the other. There are around 2,500 kilometers between the southwestern tip of Lake Baykal and the mouth of the Amur, and the airline from Pos'yet Bay, southwest of Vladivostok, to Cape Dezhnev on the Bering Strait is almost 5,000 kilometers long. Sakhalin Island

●131 from north to south is almost 1,000 kilometers long, and Kamchatka Peninsula stretches around 1,600 kilometers into the sea from the mainland. These few facts may be enough to give some notion of the vast distances and also the size of the land. The land covers 3,850,000 square kilometers. That is more than fifteen times the size of Great Britain and Northern Ireland or seventeen times the area of France. But this vast area is in European terms practically empty of
161 people; for in one square kilometer taken as the general mean, there
311 are only 1.6 persons--even if estimated population of 6.3 million in 1950 is taken as a basis. That is extraordinarily sparsely settled. However, in order not to give any false notions, it must at the same time be noted that the actual distribution of people is entirely different. In the southern parts there are regions which are much more thickly settled, while in the vast areas away from the transportation lines, especially throughout the north, in areas of many square kilometers only one person is to be found.

The southern regions--Transbaykal, Amur Oblast, Maritime Krai, the greater part of Kamchatka, and also Sakhalin--are completely suitable for accepting people, even though the harsh climate brings certain hardships. But the Russians are more accustomed to bearing such conditions and better suited for overcoming them than any other European people. Thus Transbaykal and the real Far Eastern regions of the Soviet Union offer settlement opportunities with good prospects for the excess population in other /16/ sections. The population has continuously and considerably increased through immigration:

1911	1,723,754
1926	2,304,000
1939	4,039,000
1950	6,300,000

631 The administrative division corresponds approximately with
161 the natural provinces named in the concept "Soviet Far East" although the borders do not coincide exactly. However, in order to be able to use figures and statistics, it is necessary for practical reasons to make the administrative regions equivalent to the provinces. Unfortunately exact data for this purpose are available only for the time of the last census on January 17, 1929. These data give the following figures for the Soviet Far East: /Table on Following page/

7 [i.e. The Soviet Far East — Analyst]

strong inclination to marshiness are distinguishing marks for this area. 132
The Sikhote-Alin' stretching parallel to the coast keeps back the 137
coolness and also the fog from the sea and allows the sun to have a
stronger effect. Everywhere the more southerly position makes it-
self apparent. In the forests of Sikhote-Alin' deciduous trees appear
more and more in the foreground, increasing toward the south, until
finally, in magnificent specimens, they form the sole type of tree.
In the cultivated zone, too, which stretches along the entire lowlands, 311
typically Manchurian-Chinese plants become noticeable in increasing [241]
measure toward the south. Kaoliang and other millet, soya beans,
and rice appear noticeably on the scene. There is a change in the 162
population, too. In the northern part of the lowlands, as far as Khanka
Lake, Russians and Ukranians predominate; in the extreme south,
Chinese and Koreans are in the majority. The Ussuri-Khanka low-
land is relatively thickly settled, the Sikhote-Alin' itself, on the [316]
contrary, is in large areas as good as uninhabited, except for some
mining areas in the south, where /31/ coal primarily is mined.
Native Tungus traverse the Sikhote-Alin' in smaller numbers than in
the old days, and in addition there are Russian hunters and Chinese
collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional 131
direction. The southern part is traversed by two parallel mountain
ridges, which are separated from one another by a relatively wide
depression. The eastern mountain chain is shorter but higher, and
its peak of 2,013 meters is the highest elevation on the island. To-
ward the north the mountain ridges flatten out and give way to a
hilly plain. The cool, foggy air masses blow unhampered over the
land here, while in the south a difference in climate is caused by
the mountain chains. The eastern slopes are cool, rainy and un-
friendly, while the western side appears somewhat milder. The
southern parts of the island, which were Japanese from 1905 to 1945
and only now have again become Russian , are generally more favor-
able. In terms of its landscape, Sakhalin can be designated a damp,
cool, forested mountain country, but in numerous places treeless
moss steppes appear, which recall the tundras of the north. Once
feared as a Russian prisoners' colony, Sakhalin is advancing economical-
ly more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encom- 133
passes, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina
Bay in the extreme northeast. In the western part, which stretches

climate and then also to the great masses of water which flow together here in the Amur, Sungari, and Ussuri. With the relatively low position of the plain these great masses of water permit the ground water to rise very high to the water level of the rivers. The swampiness is also fostered by the old sea deposits lying in the ground of the plain. These sea deposits mostly form a solid, impermeable layer of loam. In addition there is a further difference, which lies in the state of development of the landscape. In contrast to the thickly settled, cultivated landscape of the Zeya-Bureya plain, the Amur plain is occupied only in its southern part and here, too, only in strips--along the railroad and along the Amur. The largest part, especially the area below Khabarovsk, is only sporadically occupied by settlements, which here completely disappear in the vast natural landscape.

After the break through in the Bureya Mountain Range, where the Amur is in places compressed to a width of almost 500 meters, the river expands to a true lowland stream. The banks become low and move back, numerous islands, often of great length, occur and divide the river into very many arms. Normal widths of 2 to 5 kilometers are no longer a rarity. The Sungari, which the Amur takes in here from the right, comes far from the south of Manchuria and brings warmer water to the Amur; accordingly, the Amur below the mouth of the Sungari becomes free of ice earlier and also remains open longer. Forty-five kilometers above Khabarovsk and the real mouth of the Amur, the Amur receives the Kasakevichevsk River, the first arm of the Ussuri coming from the south.

The Khabarovsk plain spreads out opposite the mouth of the Sungari and the Ussuri. Thick layers of loam form the base here and, through their impermeability, cause the area's great inclination toward swampiness. As a consequence of this, the areas near the rivers are the least suitable for agriculture, which occurs first on the somewhat higher, better-drained land. In contrast to the Zeya-Bureya plain, therefore, vast areas here remain swampy meadow steppes in their natural state and are used as meadows or hay fields. However, dry ridges and mountain groups also appear in the middle of the Khabarovsk plain. These ridges and mountain groups consists of Paleozoic layers (carbon) and are covered with forests. Their absolute height often reaches 500 meters.

The entire area within the arc of the Amur from Pashkovo to the mouth of the Ussuri belong to the Jewish Autonomous Oblast. Northern border runs north of the railroad line. The oblast covers 36,800 square

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
•131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the
361 name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000
[294] inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire
135 Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establish-
241 ment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is in-
234 fluenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large
[161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid
[39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has
[382] a shipyard in which coastal vessels are also built. A modern cracking installation has been added to the older oil refinery in order to process
[508] the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there
[241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

115 a survey of the development and buildup of the Magadan-Kolyma area with
121 the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

2) Physical Features of Kolyma: Kolyma is that region in the
[134 northeastern part of Siberia, named for the Kolyma River; the boundaries
631 have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 Be that as it may, there is ample evidence to support the contention
631 that neither of the two above cited political divisions are tech-
471 nically correct; due to the establishment of Dalstroy (Far Eastern Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 3) Administration: The Constitution of the USSR is not formally
625 operative throughout this vast area* (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

*[i.e., the Kolyma region of Siberia – Analyst]

133 "golets"), which means the same as "baldy" or "bald-head." These goltsy, which appear in Transbaykal only in individual instances, are extremely typical for all mountain areas in the Far Eastern region.

101 311 Culturally, too, Transbaykal has to a remarkable degree a transitional character. The steppe regions, the steppe valleys, and the steppe islands have since time immemorial been the seat of nomadic cattle-breeders, in this case the Buryat, an intelligent and energetic tribe of Mongols, who have kept themselves on the steppes which suit their nature and culture. It is interesting to determine how exactly their expansion even today coincides with their natural landscape. The Buryat penetrate only rarely into the forest areas; more often they leave these to the forest peoples of the Tungus, who even today live there still as hunters and reindeer breeders. The Buryat were the first people to give successful resistance for a time to the invading Cossacks, but as nomads they later had to clear the field for the Russians who were seeping in slowly and pursuing agriculture. Buryat helped themselves, however, by adjusting: they often went over to agriculture themselves, and they appropriated for themselves the advantages of Russian culture. Thus, even though they were penetrated by Russians, they were able to retain their original regions and to attain a cultural level which raised them above all their Mongolian tribal brothers on the other side of the Soviet Russian border. Because of the invasion by the Russians, there came into existence here a cultivated landscape which was inserted between the completely forested areas in the north and the pure steppes in the south; but corresponding to the spacious transition region, this cultivated landscape did not appear in a closed-off zone, but in culture islands. In extensive regions in the south near the border, the Buryat even today still lead their old nomadic, cattle-breeding life.

• 132 The fact that the bulk of the rainfall occurs in the summer is favorable for agriculture. Chita, lying in the middle of the land, has an annual rainfall of only 319 millimeters. However, 289 millimeters of this falls during the vegetation period so that a relatively sufficient [243] amount of dampness is available, in conjunction with continental warmth, to make possible a very high yield of summer wheat. This makes Transbaykal an important wheat producer and the principal supplier for all of east Siberia.

133 The Amur country is adjacent to Transbaykal, without a clear border, north of the northern arc of the Amur. In its large morphological traits it is no less varied than Transbaykal, though the differences in

height are greater; for in the Amur country the bottoms of the valleys sink to between 500 and 200 meters, while the mountain ridges still retain heights between 1,000 and 1,500 meters. The number of mountain ridges, which retain their rounded-off, plateau-like character with numerous "gol'tsy" /29/ set on them, decreases. Likewise there disappears the parallel lining up of the main chains in a northeastern direction, a trait which is so marked in Transbaykal. The main mountain chains in the Amur country, on the contrary, run predominantly from west to east, while others cross them almost at right angles. Thus, in contrast to Transbaykal, the geological features have greater dimensions here, where broad plains are inserted between the individual mountain chains, and toward the Amur these plains assume the character of low plains. The thickly settled Zeya-Bureya Plain should be mentioned first. But here too the corresponding traits appear which--apart from the mountains--are expressed in the main direction of the rivers and their valleys. A southwest-northeast direction (like Lake Baykal), such as occurs in the course of the Argun, the Selemdzha, the Bureya, and the lower course of the Amur, crosses a northwest-southeast direction, which appears most clearly in the middle course of the Amur and in the direction of the Gilyuy. Many rivers, such as the Zeya, follow first one direction and then the other. 133

The difference in the landscape from Transbaykal is great since the Pacific Ocean has a powerful effect on the Amur country which lies in the sphere of the east Asiatic monsoon. The nearness of the great continental mass, to be sure, brings harsh winters; but the summer is warm and brings at the same time heavier rainfall than in Transbaykal. Generally the annual rainfall is more than 500 millimeters, of which usually more than half falls in the three summer months of June, July, and August alone and brings forth a most luxurious plant growth. While in Transbaykal the valley areas remain free of tree growth because of the dryness, here there is excessive dampness, which makes it impossible for forests to thrive in the valleys, meadows and level areas. This excess of summer rain gives the landscape its special stamp. Swampy reed thickets along the rivers, broad meadowlands covered with high grass and lying on the higher plains, giving way to little woods on the dry hills, and on the slopes and ridges of the high mountain chains forest thickets often difficult to penetrate and, in contrast to the Siberian taiga, containing oaks and deciduous trees--these are typical of the entire Amur country. 132 137

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311 The excess of dampness in vegetation season is a handicap even for agriculture and makes difficult the extension of the cultivated areas. New land for cultivation must as a rule be won laboriously from nature by drying it out. More and more the extended Zeya-Bureya Plain and the area along the Amur have become quite thickly settled, and large parts of the famous "Amur [162] Prairie" have been transformed into cultivated land. It is predominantly Russians who live here. The Chinese who immigrated here earlier have been pushed back over the Amur--in part by force. In all the rest of the area, however, /30/ untamed nature dominates the landscape, which is traversed at most by a few Tungus or Russian 316 hunters. A wealth of gold has lured numerous Russians into this wasteland, too, especially in the area around the upper courses of the left tributaries of the Amur. A locally very active gold industry has come into existence, which today is organized by the state and which has drawn even this distant region into the economy.

133 The Ussuri country is divided into two completely different parts: the huge mountain mass of the Sikhote-Alin', which fills the entire area from the Bay of Peter the Great in the south to the mouth of the Amur in the north; and the Ussuri-Khanka lowlands, which extend west of the Sikhote-Alin' in the same direction and continue south of the Khanka Lake without marked interruption as far as the Bay of Peter the Great.

The Sikhote-Alin' is a forest-covered, strongly valleyed /zertaltes/ mountain mass, which is divided into several ridges running parallel to the coast. The shapes of the mountains are soft without especially marked edges and projections. More often plateau-like shapes predominate here, too. The heights in general lie between 650 and 850 meters; the valleys, however, are deeply carved out. Rising slowly from the west, the mountain mass descends steeply to the sea and only rarely leaves free a narrow coastal indentation plain on which there arises small, poverty-stricken fishing villages. The nearness of the sea crossed by a cold stream causes a cool, foggy, rainy, unfriendly summer, thus producing similar conditions to those found on the entire coast extending to the north beyond Okhotsk. Swampy valleys and forests dripping with a cool dampness and with a more northern stamp are typical marks of this area.

●132 The western side of the Sikhote-Alin' and the Ussuri-Khanka lowlands, on the other hand, correspond more to the Amur 137 country. Warm to hot summers joined with high rainfall and a

strong inclination to marshiness are distinguishing marks for this area. 132. 137.
The Sikhote-Alin' stretching parallel to the coast keeps back the coolness and also the fog from the sea and allows the sun to have a stronger effect. Everywhere the more southerly position makes itself apparent. In the forests of Sikhote-Alin' deciduous trees appear more and more in the foreground, increasing toward the south, until finally, in magnificent specimens, they form the sole type of tree. In the cultivated zone, too, which stretches along the entire lowlands, 311
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contrary, is in large areas as good as uninhabited, except for some mining areas in the south, where /31/ coal primarily is mined. Native Tungus traverse the Sikhote-Alin' in smaller numbers than in the old days, and in addition there are Russian hunters and Chinese collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional 131
direction. The southern part is traversed by two parallel mountain ridges, which are separated from one another by a relatively wide depression. The eastern mountain chain is shorter but higher, and its peak of 2,013 meters is the highest elevation on the island. Toward the north the mountain ridges flatten out and give way to a hilly plain. The cool, foggy air masses blow unhampered over the land here, while in the south a difference in climate is caused by the mountain chains. The eastern slopes are cool, rainy and unfriendly, while the western side appears somewhat milder. The southern parts of the island, which were Japanese from 1905 to 1945 and only now have again become Russian , are generally more favorable. In terms of its landscape, Sakhalin can be designated a damp, cool, forested mountain country, but in numerous places treeless moss steppes appear, which recall the tundras of the north. Once feared as a Russian prisoners' colony, Sakhalin is advancing economically more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encom- 133
passes, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina Bay in the extreme northeast. In the western part, which stretches

Remarkably enough the valley of the Upper Angara, which 133
stretches far to the east between glaciated mountain ranges (Upper Angara Range in the north, the Barguzin Range in the south) was not exposed to glaciation.

Also south of Lake Baykal the mountain ranges had glaciers, which in the valley of the Slyudyanka and Pokhabikha reached the level of Lake Baykal in the form of valley glaciers. Here more than 25 glaciers have been counted in an area of 60 square kilometers, but these were all only insignificant ones which at most had a length of 10 kilometers. The landscape is rich in gorges, which lie at very different heights ranging from 50 meters to 600 meters above the present level of Lake Baykal (454 meters above sea level). Thus the Ice Age snow boundary must have been very low here in comparison with the neighboring Sayan (around 2,000 meters) and the northeastern Baykal area (at least 1,200 meters). An explanation for this striking appearance can be seen in the fact that Lake Baykal itself even in the Ice Age /51/ exerted an influence on the climate of the surrounding areas, an influence which was especially noticeable here in the southern part where even today the rainfall is high. The slope of the Khamar-Daban turned toward Lake Baykal is the rainiest area in Transbaykal. But in addition there is the fact that southern Lake Baykal is an area of recent depression, which continues even today, and accordingly the traces of the glaciers can also be regarded as subsequently dislocated.

There are also local glaciations in Transbaykal apart from the above-described glaciated areas. The best known are the glaciations of the 2,500 meter high Sokhondo and neighboring mountains, where gorges, trough valleys, and even moraines appear on the slopes.

Traces of an old glaciation have also been found in the Dzhugdzhur, in the Stanovoy, which extends up to 2,482 meters in height, in the Tukuringra Range in the heights on both sides of the Zeya break-through, and in the Yam-Alin (2,215 meters). However, the signs are but slight throughout and appear only in a limited area, and accordingly here there were at most individual dotted glacier formations.

The Permafrost and Its Significance

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The largest part of the Soviet Russian Far Eastern region lies in the sphere of the permafrost or the Eternally Frozen Earth, as this

appearance of nature is also named, and this therefore deserves special treatment within this work. The Soviet government has specially undertaken research on this phenomenon,[1] which is typical of the largest part of Siberia and also for parts of the European north; the government has erected eight permanent research stations for this purpose, of which four are in the regions being discussed: namely, in Petrovsk (Transbaykal), Skovorodino on the railroad line north of the northern arc of the Amur, Bomnak in the trough depression of the upper Zeya, and in Anadyr'. In addition to B. Shostakovich, M. Sumgin especially has done great service in research on permafrost. Orientation on the extent of the permafrost is given in the attached sketch map, which is based on Russian sources. This map shows that the only areas completely free from frozen ground are the areas on both sides of and between the Zeya and Bureya rivers and perhaps the area east of the Bureya Mountain Range, including the entire Ussuri country and the Maritime Krai. Frozen earth is not found in the larger southern part of Kamchatka and on Sakhalin Island either.

In the areas which are dominated by permafrost, the ground thaws in the summertime only superficially in a layer whose thickness varies considerably with the locale, and under this layer lies the permafrost, i.e. a constantly frozen layer of earth, which likewise is of varying thickness. The upper layer which thaws in the summer, is called "active" (deiatel'nyi sloi) /52/ by the Russians, and only it is the bearer of organic life. In the majority of cases the pieces of earth in the permafrost area are so strongly cemented together by ice that the ground gives way only under the blows of a crowbar. However, this sign of linking together by ice must not be used as the sole means of determining whether the ground should be classed as eternally frozen; rather this classification depends above all on the temperature. Thick rock can also bear permafrost, although no external changes can be discovered on the rock.

In the winter the ground freezes from the surface down. In many cases, then, the winter freeze and the permafrost grow together into one unit, but in most cases there remains between the two an unfrozen horizon, whose water under special morphological conditions, especially at the foot of slopes, breaks through the upper frozen layer or is pressed out by the pressure from above of the frozen earth. This leads to formations of ice on top of the ice (Naled'), which, since the water flowing out freezes again and again, can often extend over a large area and can attain a thickness of more than one, indeed of two meters.

[1] [i.e. permafrost -- Analyst]

Or, under specific conditions, ice kernels form within the earth. These ice kernels grow and press the upper layers of the earth into a hill, which then in the warm season collapses again. As a result a lake is frequently formed in place of the hill because of break-throughs in the earth. Generally the existence of frozen earth permits the absorption of the surface water only to a certain depth, and accordingly the rainfall for the most part must flow off on the surface. The irregular water flow of the rivers in these regions often goes back to this phenomenon. Thus the contrast between the high and low water lines is very great everywhere. At the confluence of the Shilka and the Agrun, the Amur passes, as its annual mean 1,200 cubic meters of water per second, while the minimum during the year is only 125 cubic meters per second. Heavier rainfall makes itself felt immediately in an often flood-like rise in the water being passed in the rivers. The thawing of the surface layers of the earth, especially in areas with varying morphological formations, offers the best conditions for ground flows. Thus the domain of the permafrost is the classical land for landslides and solifuction.

But, in addition to these numerous and very interesting natural phenomena, the effects of the permafrost on man and his economy must be mentioned; these effects are apparent everywhere in the permafrost domain and often bring difficulties. Through freezing the volume of the water expands, presses the ground upward in places, and causes destruction of transportation installations. Deep tears occur in the railroad line, and through these tears mud and water from deeper layers often push out, /53/ /Mapof the permafrost area:/ /54/ freezes on the surface, bursts the splits open farther, and forms high bucklings, and thus gradually the roads become unusable. With the setting in of the thawing weather, everything sinks together in mud and pulp.

In addition the roads and especially the bridges are by preference the starting points for ice building on ice. As an example Sumgin points out the road built from Bol'shoy Never on the Amur railroad, via Tyndinskiy and the Aldan gold region, to Yakutsk on the Lena. This road should be usable for trucks the entire year. Out of the entire length of 1,300 kilometer, on the southern part alone between Bol'shoy Never and Tommot, which is 728 kilometers long, 117 formations of ice on top of ice were counted in the winter of 1927-28. These formations caused serious destruction, especially on bridges which were as a result partially raised up, made crooked, and gradually

Map of the Permafrost Area: /53/

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Areas with Ground Temperatures in Celcius Degrees at a Depth of 10-15 Meters:

Under - 5°
Closed-off area of frozen ground.

Predominantly - 5° to - 1.5°
Frozen earth less thick
Islands here and there where the ground is not frozen.

(Captions continued on following page)

/53/

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Predominantly over - 1.5°

In the north predominantly frozen earth with islands where the ground is not frozen. In the south for the most part the ground is not frozen butthere are islands where it is.

Predominantly over - 1.5°

Only in places are there islands where the ground is frozen

132 made unusable. In the spring after the melting away of the ice, the
134 bridges completely collapse. The population claims that earlier for-
499 mations of ice on ice occurred only seldom in these same regions. Thus it must be assumed, and Sumgin also points this out, that the formations of ice on ice are encouraged by the building of roads. Through trials and experience, various new methods of road-building have been found which hinder this damage, but it can not be entirely eliminated. In general terms it can be said that in the areas of permafrost road-building is very difficult, requires a longer time, and is done at much greater cost than in other regions.

Of a similar type are the difficulties encountered in building and maintaining railroad lines. In addition to the pulsation of the earth, landslides and solifluction are regarded as being especially dangerous here. In building the Amur railroad line all these hindrances and difficulties became known in detail. Often, without regard to the cost, the lines had to be laid entirely differently from what had originally been planned. Especial difficulty was encountered in providing water for the railroad in the winter in the areas of permafrost. Water had to be drilled from layers which lay under the permafrost. In many places water had to be procured in kilometer-long, heated conduits. A comparison of costs shows best how great the difficulties were in building the Amur railroad line in the areas of permafrost and to what extent these difficulties increased the costs here versus those in other regions. The building of the great Siberian Railroad (as far as Sretensk in Transbaykal), including all preparatory work, required as a mean an expenditure of 67,737 rubles per verst, while the western part of the Amur line from Kuenga to Kerak, whose total lenght is 597 verst, required for pure building costs an average expenditure of 158,000 rubles per verst. Also the maintenance of the railroads requires larger outlays, since the railroad lines, and especially the bridges, require constant and very careful inspection, in order to be able to take /55/ protective measures in time at the slightest sign of any destruction whatsoever. Thus in the course of the year position changes were determined on 50 out of a total of 80 bridges on the Amur railroad, and these position changes had to be eliminated by protection and rebuilding measures.

132 The permafrost also plays a noteworthy role in the method
134 of construction. Apart from the direct effects of the cold, the buildings
342 in the sphere of the permafrost are subjected to the danger of gradual decay. The reason for this lies principally in the fact that the ground

under a building freezes little if at all during the winter. V.G. Petrov (154) writes on this subject: "The house stands as though on

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154. Petrov, V.G. Naledi na Amursko-Iakutskoi magistrali /Formations Breaking Through the Ice (Aufeisbildungen) in the Amur-Yakutsk Magistracy/. Academy of Science, Moscow, 1930.

the edge of a frozen crust. If now this crust begins to thaw, its edge spreads the house lengthwise and widthwise, and the damage begins." This leads to general deformation of the house and to the gradually sinking in of the house into the ground. Sumgin points out that this danger is caused above all by so-called "swimming" masses, which form under the house and which can be traced back to the changes in the thermic conditions in the ground. With larger structures of several stories, they can often be caused by the pressure of the structure alone. In individual cases it happens that the water in the earth, which lies between the winter freeze and the permafrost and which is under a certain pressure, finds a way into the open underneath the house. It penetrates into the cellar and even into the living quarters and forces the occupants to leave the house. Not uncommonly the penetration of the water occurs so quickly that the occupants do not succeed in rescuing all their possessions from the rooms. The regions of permafrost require construction methods which counteract these dangers. As a rule an attempt is made to lay the foundation so deeply that it has a firm position in the permafrost; to do this, mostly wood or reinforced concrete palings are inserted into prepared holes deep in the permafrost. In the construction of new cities and plants the question of a sufficient and secure foundation plays an important role, and it also is an important factor in the cost estimate. In building the city of Magadan, where apartment buildings with up to six stories were erected, thick layers of earth had to be removed in order to install the foundations so that the foundations became frozen fast into the ground. The sides of the foundations were protected by insulating layers. Often the foundations were entirely embedded in insulating layers here. In order to eliminate all these difficulties, M.M. Kryllov, whom Sumgin cites, had drawn up a plan to be carried out with the help of modern cold technology; this plan envisaged keeping the ground within the construction installations always under a certain temperature with the goal either of preserving the permafrost at a certain depth or even of raising it. However, this proposal has been tried out but little in practice.

000 even of raising it. However, this proposal has been tried out but little in practice.

●132 134 312 /56/ In addition to the general water supply, the supplying of drinking water in the permafrost regions in winter causes many difficulties, especially for larger settlements. Since many rivers freeze to the ground, the water must often be gotten from far away. In many places artificially caused formations of ice on top of ice are used to help in smaller settlements. But it would lead us too far astray to go into detail here on the various and often also unique methods of procuring water.

132 134 316 The permafrost is also of great importance in connection with mining and with the extractions of natural resources generally. In pit mining the permafrost sets great hardness against the invasion of man. Even diamond drills fail sometimes, and, if the motor stops for even a moment, the drill freezes fast in the water of the hole being drilled. The pits and galleries are mostly firm and hold even without supporting beams, the danger of chokedamp is slight, and also ground water seldom appears, and only occasionally do water break-ins occur. In open mining the permafrost must be dynamited, but then the blocks knocked loose turn into bulky pulp. Gold extraction has to overcome special difficulties in the working of gold wash-works which mostly are in the permafrost and lie under a thick, unfrozen layer of earth which can be removed rather easily. In the most important gold regions the most modern machinery is employed to process the gold-bearing sand in one vein with everything from dredge to dressing-floor, but all these technically complete establishments conduct a difficult battle with the permafrost, whose hardness gives extraordinary resistance. The natural thawing under the air temperature of the summer proceeds so slowly that man must help it along. The primitive thawing with the aid of wood and coal fires has disappeared, and jets of water also do not suffice here. At present, steam is employed everywhere, and new announcements report that the use of electricity is being considered for the future.

132 134 The role played by permafrost in connection with vegetation is many sided, but the mutual relationships are still too little clarified. For the agrarian economy the permafrost is a more favorable factor as a source of ground dampness, especially in the interior which suffers from a shortage of summer rainfall. Here the dampness of the ground is a natural compensation. It is due to the exploitation of these favorable conditions that Soviet Russia has succeeded in spreading agriculture,

if not in large areas, yet sporadically toward the Polar Circle, where cultivated areas are to be found to a greater or lesser extent near all settlements as far as north of Magadan. These cultivated areas serve as a source of local supply. 132 134

/57/ The Climatic Conditions

The climatic conditions are determined by the seasonally changing contrast of the barischen /baric?/ relationship between continent and ocean. In winter dry air masses flow toward the ocean; the summer sea wind on the other hand brings dampness into the land. Accordingly the influence of the ocean is limited to the true Far Eastern regions whose waters empty into the Pacific. These regions accordingly form a climatic unit. As a consequence of the regular seasonal climate changes, these regions belong to the East Asiatic monsoon area, whose typical character is clearly stamped everywhere and has its effect as far north as beyond 60° latitude. Only Transbaykal lies outside of this unit. Its inland location allows the continental traits to appear much more sharply. But the summer monsoon also makes itself felt here as far as the Yablonovyy Mountain Range. 132

The following climate areas in addition to Transbaykal can be differentiated according to their general character: the Amur-Ussuri area, the southern coastal region, in which Sakhalin is also included, the northern coastal region including Kamchatka Peninsula, and the Anadyr' region. The important distinguishing features are included in the following chart:

Area	Annual Rainfall in millimeters	Number of months with a mean over		Annual Temperature Variation
		5°	10°	
Transbaykal	200 - 340	5	3	42° - 52°
Amur-Ussuri Region	525 - 620	5	5	42° - 48°
Southern Coast	540 - 760	6	4	30° - 34°
Sakhalin	500 - 750	5	4	28° - 35°
Northern Coast	300 - 900	4	2	33° - 37°
Kamchatka	500 -1,000	4	2	23° - 32°
Anadyr'	190 - 200	3	3	40° - 45°

Transbaykal has very slight rainfall and great temperature

● 132 variations during the year. The Amur-Ussuri region has almost double the rainfall and equally great temperature variations. The entire coastal area in general has still greater rainfall and a much smaller temperature range. The Anadyr' region again shows slight rainfall and high annual temperature variations.

The Amur-Ussuri region exceeds all other regions in the number of months with a mean temperature over 10°. In the coastal area the number of warm months decreases toward the north. The Anadyr' region again exceeds the northern coastal area and Kamchatka in the number of months with a temperature above 10°.

Transbaykal is a transition area in terms of its climate. It shows the signs both of the Siberian forest climate and also of that of the Mongolian steppes. In addition, a local factor in the climate /58/ with noteworthy influence is Lake Baykal. Only rarely does the annual rainfall exceed 300 millimeters. In this the driest areas do not only lie near the Mongolian border, where Novo-Selenginsk has an annual rainfall of only 162 millimeters, but remarkably enough the dry areas extend even to Lake Baykal. The Buryat who are settled on Ol'khon Island (169 millimeters) and in the Barguzin Valley are forced to use artificial irrigation. An exception in the general poverty of rain is the northern slope of the Khamar-Daban, which receives 515 millimeters annually at Mysovaya. Likewise the thicker snow covering and the heavier forestation of the northern slopes indicate that Transbaykal is preferentially supplied with dampness from the northwest. An important characteristic, here Mongolian, is the great contrast in the rainfall at different times of the year. In the summer half of the year 75 percent and more of the annual total falls, while the winter months (December, January, February) are considered very sparse in rainfall with 3-10 percent of the total. Winter brings very severe cold. At −31.4° Nerchinsk has the lowest mean temperature for January. As a result of the slight, often completely non-existent snow covering, the frost penetrates very deeply into the ground. Accordingly the land lies in the sphere of the permafrost, which with a depth of 57 meters at Mogzon station, west of Chita, reaches its deepest depth determined thus far in Transbaykal. Because snow is lacking, road traffic takes place in winter too by means of wagons or on sleds on the frozen rivers. Because of the dryness the streets are just as dusty as in the summer. An advantage of the Transbaykal winter--an East Siberian characteristic--is its imposing quietness, its pure air, and its constantly blue,

bright sunny skies. The air is so dry that the snow often evaporates directly without going through the liquid stage. On small brooks, which in many cases freeze to the ground, the ice often disappears leaving only the river bed. Spring is short. Since the time for the melting of the snow is almost completely lacking, the ground gets warm very quickly. For the same reason there is no high water in spring. The amount of water in the rivers depends on the rainfall and is largest during the summer. Summer brings very high temperatures. The unreduced July mean reaches 18-20°. Gruelling heat weighs upon the entire land, especially in the valley plains, and it is an economically important advantage of the Transbaykal climate that the summer months bring at the same time the most rainfall and the heaviest clouds of the entire year. In the course of the year, however, bright sunny days predominate by far. Transbaykal has a mean of 100-140 completely clear days a year; in this respect it approaches the desert type of climate.

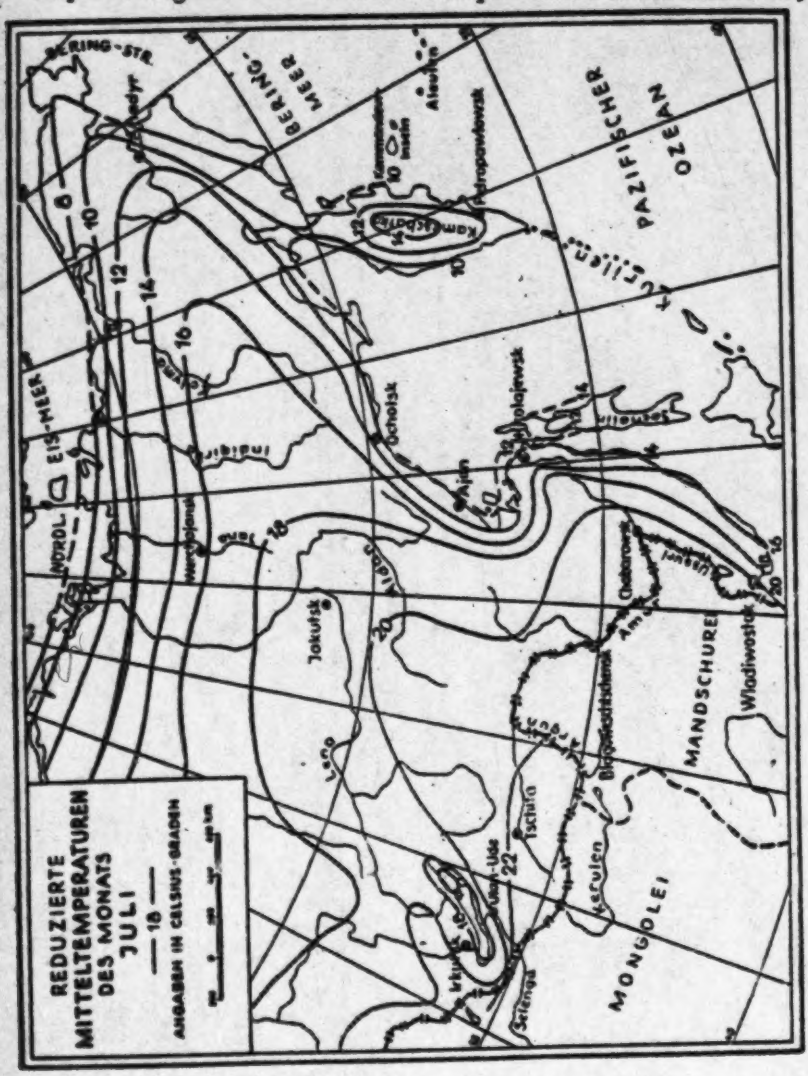
A phenomenon characteristic for the climate of Transbaykal, a phenomenon to which A. A. Borisov (39) in particular has called

39. Borisov, A. A. Klimaty SSSR /The Climate of the USSR/. Moscow, 1948.

attention, is the temperature inversion. /59//Map Showing the Reduced Mean Temperatures for the Month of July:/ /60/ If during the winter the Asiatic anti-cyclone forms over the continent with Transbaykal lying in part in the center of it, then the cold and heavy air masses collect in the valley basins, where they remain with extraordinary persistence. This explains the fact that the lower lying places as a rule have lower winter temperatures than the higher lying ones. Pereval'naya at 1,024 meters, for example, has a January temperature of -23.3°, while Chita at a height of 683 meters has a January mean of -27.4°, and Nerchinsk at 484 meters even has a January mean of -31.4°.

The influence of Lake Baykal is limited to its immediate environs, but this produces remarkable contrasts. In Listvenichnoye, at the point where the Angara flows from the lake, December and January are 10° warmer than in Ulan-Ude which is 90 kilometers from the banks of the lake, and June and July are 7° cooler. The annual range in temperature is 29.6° in Listvenichnoye versus 45.9° in

Map Showing the Reduced Mean Temperatures For the Month of July: 132



Figures are given in degrees centigrade.

132 Ulan-Ude. As a consequence of the slow change in temperature of the water in Lake Baykal, the extreme months are postponed--all remarkable signs, which are reminiscent of an oceanic climate.

Within Transbaykal the Yablonovyy Range forms a climatic dividing line, which is expressed less in the meteorological data than in the plant covering which reflects the entire climatic conditions far better than the best instruments can record them. East of the [37] Yablonovyy Ridge deciduous trees appear in larger numbers. This shows, therefore, that the influence of the East Asiatic monsoon extends as far as here, and this is also confirmed by observation of the frequency of the change in wind directions. While in Ulan-Ude northwest and north winds rule absolutely the entire year, the frequency of these wind directions decreases significantly in the summer in Nerchinsk, where northeast and east winds appear above all.

The remaining regions of the Far East, as has already been said, stand in their climatic conditions in almost complete dependence on the seasonal change in air streams. The winter land winds bring down to the coast a high degree of coldness connected with dryness. But the summer sea winds, too, are disproportionately cool. In this connection the eastern border seas play a very disadvantageous role for the entire Far Eastern coast. The Sea of Okhotsk should be mentioned here in first place. It is a mighty cold water basin and is with justice designated the "ice cellar of east Siberia." The Kuril barrier hinders an exchange of water with the open ocean, and accordingly the water in the Sea of Okhotsk remains disproportionately cool (10°) even in summer under the continuing influence of the winter cooling-off by the surrounding land masses. In addition there is a cold ocean stream which stretches from north to south along the coast and even in summer carries great ice floes toward the south, /61//Map of the Reduced Mean Temperatures for the Month of January:/ /62/ where piled-up ice can be encountered even in July and August in the region of the Shantar Islands. In the Bering Sea and in the Sea of Japan, too, cold ocean streams move along the coast toward the south and lower the summer air temperatures not only through the water's own coolness but also through the formation of fog, which is a typical phenomenon for wide areas on the Far Eastern coast. Thus the general disadvantage of the east side of northern continents is especially marked here in the Soviet Russian Far East. Vladivostok (43° o7'N latitude) has the same July temperature as Moscow (55° 56'N latitude). Vladivostok lies at the same latitude as Nice but has a mean temperature for January of

Map of the Reduced Mean Temperatures for the Month of January

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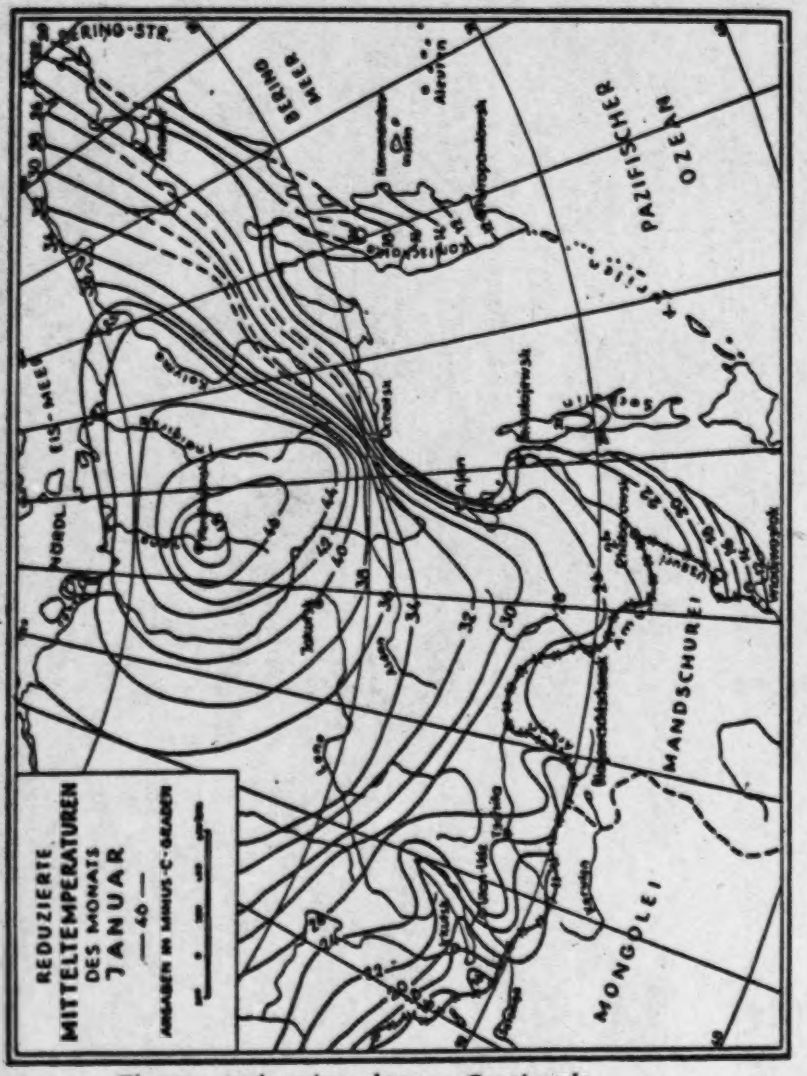


Figures are in minus degrees Centigrade

-15.1° versus Nice's of 8.0°, and in July Vladivostok's temperature is 18.9° versus 23.2° in Nice. This disadvantage of the Soviet Far Eastern coast is shown especially forcefully if it is compared with the climatic conditions on the western coast of North America: 132

Mean Temperatures of the Soviet Far Eastern Coast and of the North American West Coast in Degrees Centigrade

Place	Latitude	Annual Mean	Coldest Month	Warmest Month	Annual Variation
Ayan	56°03'	- 3.9°	- 20.4°	12.4°	32.8°
Sitka	57°01'	+ 5.3°	- 1.0°	12.6°	13.6°
Nikolayevsk	53°02'	- 2.3°	- 23.4°	16.8°	40.2°
Tongass	54°08'	+ 8.1°	+ 1.1°	15.1°	14.0°
Vladivostok	43°02'	+ 4.3°	- 15.1°	20.8°	35.9°
Umqua *	43°07'	+ 11.4°	+ 6.8°	15.5°	18.7°

*/sic: probably is the Umpqua River in Oregon, which lies at this latitude/

The unfriendly influence of the Sea of Okhotsk, however, is limited more to the coastline since the mountain chains running parallel to the coast prevent a further penetration into the interior of the land, and accordingly the warm summer sun has more effect. As a result of this the division into climate areas on the coast is in contrast to the other climate areas.

The Amur-Ussuri Climate Province lies more landwards and comprises the region of the middle and lower Amur and the valley of the Ussuri. The Sikhote-Alin' and the Bureya Mountain Ranges protect these regions in the summer from the foggy and damp-cool air masses of the sea. Instead warm and damp winds coming from the southeast and south move over the broad plains of Manchuria and beyond the Amur to the north and effect a warm and damp summer in contrast to the continental harsh and dry winter.

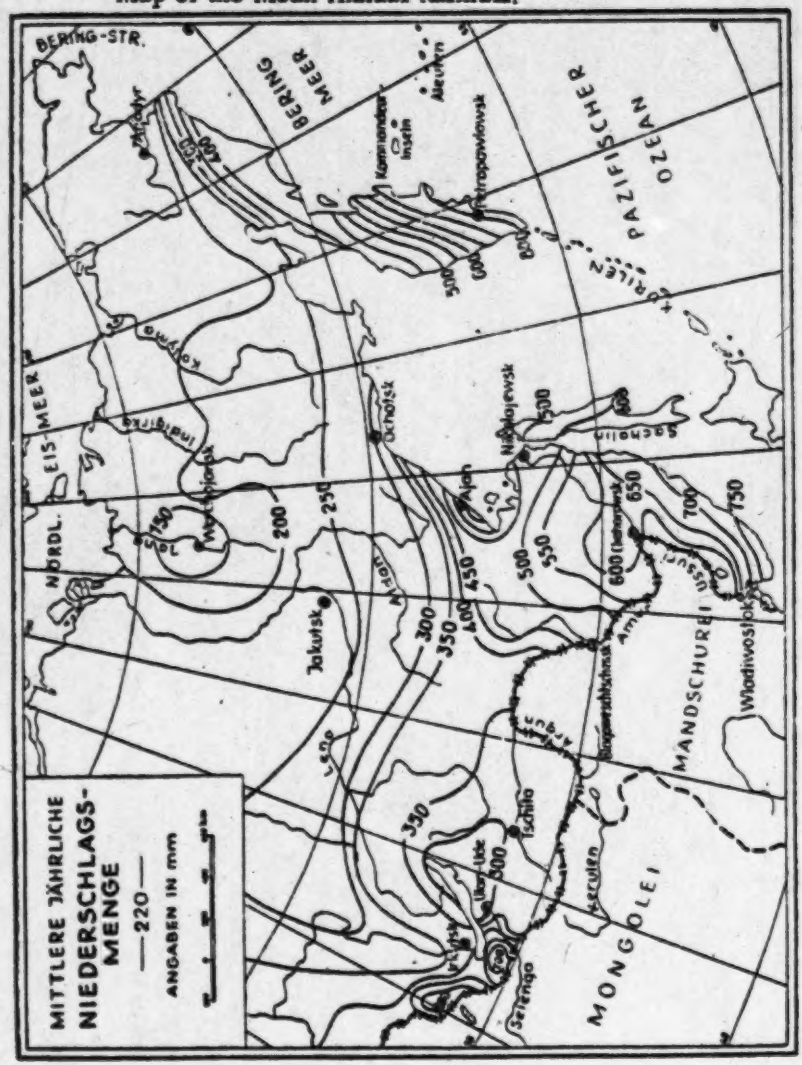
The favorable conditions of this climate region[1] are expressed strikingly in the vegetation, which is characterized by the appearance of deciduous trees such as oaks, elms, lindens, and other, trees which are lacking in all of Siberia and also in Transbaykal and on the coastal edge. [137]

The annual rainfall exceeds 500 millimeters in the entire area but understandably decreases from the coast toward the interior /63//Map of Mean Annual Rainfall:/ /64/ Thus Bikin

[1] [i.e. the Amur-Ussuri region -- Analyst]

Map of the Mean Annual Rainfall:

132.



Figures in millimeters.

132 in the middle Ussuri country receives 616 millimeters, Khabarovsk at the mouth of the Ussuri on the Amur receives 564 millimeters, Blagoveshchensk lying still farther to the northwest receives 525 millimeters. Of greatest importance is the fact that everywhere here the rainfall is concentrated predominantly in the summer. Almost throughout the entire country 85-95 percent of the annual total falls from April to November, and of this 50-60 percent falls in the three high summer months, June, July, and August, which therefore have much more rainfall here than by far the largest part of Transbaykal receives in the entire year. Blagoveshchensk receives 25 percent in both July and August; in short it receives half the annual total in two months. The annual course of the rainfall is shown by the following observations which represent the mean of six stations in the area. (79)

79. Hann, Handbuch der Klimatologie /Handbook of Climatology/ (Stuttgart, 1911), Vol. III, p. 292.

Rainfall in Percent of the Annual Total

Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1	1	1	4	10	15	23	24	13	4	2	2

The same contrast as in the rainfall is shown also in the temperature during the course of the year; and in this the harshness of the winter is especially prominent. The summers, with a mean temperature of 20.2° to 21.2° for July, are warmer than in Transbaykal; the winters, with a mean temperature of -22.2° to -24.2° in January, are almost as cold. Remarkable is the great warming-up by leaps and bounds from April (means 2.4° to 3.7°) to May (mean 10.4° to 11.9°), and this is followed by a no less sharp drop in temperature from September (mean 12.1° to 13.6°) to October (mean 1.4° to 4.7°); accordingly the main vegetation period is only in months with a mean over 10°. The abnormally cold winter in the Amur country is explained by the flowing down of heavy, cold air masses from the higher continent to the coast, and these air masses follow the valley of the Amur and fill up all lowlands. Therefore, the basins of the Zeya and Bureya are distinguished by especially severe winters, and despite its southern position the Amur has the same freezing conditions as the rivers of northern Eurasia. Thus the Amur is closed by ice 197 days a year at Blagoveshchensk and 178 days a year at Nikolayevsk, 38 kilometers above its mouth. Accordingly, the Amur at Nikolayevsk (53°08' N

latitude) is covered with ice as long as the Dvina at Arkhangel'sk (64°33'). As a result of the lack of snow resulting from the slight rainfall in winter, vast regions north of the Amur belong to the sphere of the permafrost. 132

Spring is short. Summer quickly replaces winter. Summer unites great heat with the richest rainfall of the year and fills the land with warm-damp hothouse air. The relative humidity of the air--a characteristic of themonsoon climate--is at its greatest in July with 88 percent and at its lowest in winter /65/ with 68 percent in December. September, too, is relatively dry. Cloudiness in summer is much greater than in winter. Thus the duration of sunshine in December reaches its maximum with 75 percent of the possible, and in Khabarovsk it reaches even 90-95 percent, while it has its minimum in June with 34 percent. As a result of the heavier clouding in summer the daily temperature variations in summer are slighter than in winter. (At Khabarovsk the temperature variation in February is 7.3° and in July is 4.5°). Already in the beginning of June frequent and mostly short rain storms set in, mostly in the train of cyclones which, coming from the south or southwest, reach the Amur and the area of the Lower Ussuri and then move off toward the sea in the direction of the lower course of the Amur. The ends /Ausläufer/ of typhoons can also penetrate into this region. These whirlwinds bring damp air masses far into the land, and mostly cause heavy downpours, which can lead to dangerous floods as, for example, occurred in the Zeya and Ussuri region in July 1928 when a large part of the harvest in these regions was destroyed (63). In 1872 the Amur rose and flooded the city of

63. Friedensburg, F. "Gold," Die Metallischen Rohstoffe /Metallic Raw Materials/, No. 3, second edition, Stuttgart, 1953.

Blagoveshchensk, lying on the flat bank of the river, so badly that a small river steamer could travel down the main street. (132) Borisov

132. Michajlov, N. /Mikhailov, N./ and Pokschischewskij, W. /Pokshishevskii, V./, Reise über die Karte der Sowjetunion, //A Trip across the Map of the Soviet Union/,(Berlin, 1947), p. 445.

reports that in such a case more than 100 millimeters of rain can fall

132 within 24 hours. These conditions, especially the paths of the cyclones, have still not been clarified in detail. The real rain period does not begin until early in July and lasts until the end of August. During this period there is rarely a week without several days of rain.

In addition to the already mentioned downpours, rainfall also occurs in the form of land rains. A very characteristic type has been designated as "subsequent rain" /Nachfolgeregen/ by Arseniev. This occurs when after a storm the day is sunny and still, and then in the evening rain falls again because of the condensation of the rising, very high humidity.

The abundant rainfall of summer causes the rivers to swell, and their high water occasionally spills over the banks, and often interrupts all traffic. In many places the water cannot flow off right away. It remains standing on the level fields. Grass areas turn into swamps. In the low, broad plains on the left side of the Amur, above [312] Khabarovsk, plains which were supposed to have been won for agriculture to supply the rapidly growing city, a large-scale system of drainage canals had to be created, not only in order to drain the ground but also in order to give the rainfall an easier opportunity to drain.

132 The great dampness along with the great heat endangers and decreases
241 the harvest of European types of grain. The grain shoots into grass but the corn yield is slight. The sprouting of the plants suffers from the dryness, while the blooming, ripening, and harvesting fall in the rain period. In this the dampness of the ground /66/Climate Diagram: Ulan Ude; Chita/ also plays a role, for, according to many reports, the yield of the grain fields in the hilly country on the mountain ridges and slopes is higher than the yield of the fields in the valley areas. The softening of the ground by the summer rains makes the use of machinery difficult, and this appeared as a restraining factor in the establishment of the kolkhoz system and the MTS (Machine Tractor Stations). In part steps had to be taken toward the construction of new machines. On the other hand

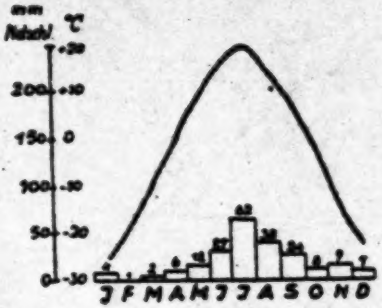
132 the climate fosters the development of vermin and fungus. The corns
137 of grain are not uncommonly attacked by a spore fungus (Fusareum roseum), which makes the bread "pianyi, " i.e. drunken, as the Russians say, because when eaten it has an intoxicating effect and causes nausea. Fruit is distinguished by richness in liquid but by a poverty of sugar. The Manchurian-Chinese cultivated plants and the natural native plant world thrive especially. Characteristic for the forests is a rich underwood, but the trees--and this applies especially to the deciduous trees--are very susceptible to disease, often becoming hollow with internal

Climate Diagram

•132

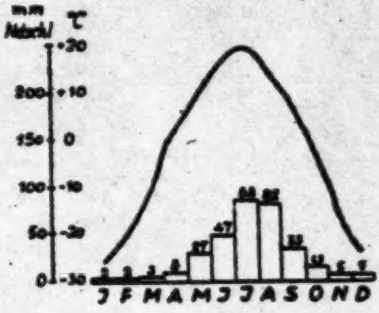
ULAN-UDE

542 m – 202 mm/Jahr



CHITA

683 m – 319 mm/Jahr



132 rot, and they are generally short lived. The usual leather boots are
137 scarcely to be used when going into the summer-damp woods, since they soften up in the damp ground covering and disintegrate.

132 The best time of the year is autumn, lasting through September October. It no longer rains. The sun shines brightly from a blue sky and in the almost complete calm emits an agreeable, bearable warmth. Once the frost comes, it lasts through the entire winter. It is seldom interrupted by a spell of thaw. The great dryness of the air is remarkable, even snow often evaporates.

/67/ /Climate Diagram: Blagoveshchensk; Vladivostok./

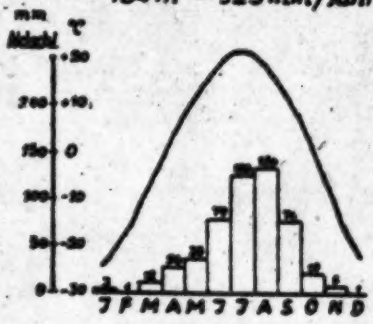
The coastal climate dominates the entire coastal strip from Vladivostok in the south to the north beyond Okhotsk. Because of the coastal strip's variations in width there are climatic variations between individual sections, but only in a gradual sense. It is useful, however, to divide the area in two, and to treat the southern coastal area separately from that of the north.

To the southern coastal area belongs the area from Vladivostok to the mouth of the Amur River. The hinterland is occupied in its entirety by the Sikhote-Alin'. Its principal chain acts as a climatic dividing line in summer and in winter. Despite the proximity of the ocean, the winter on the coast is marked by continental severity. It is more severe in the north, where a solid sheet of ice is formed between the mainland and Sakhalin Island, than in the south, where only a thin crust of floating ice is formed at the coastline. The entire coastal strip is subject to the cold, continental air masses pushing toward the sea. Nevertheless, temperatures on the coast are not as low as west of the Sikhote-Alin'. For one thing, the masses of air are forced down on their way to the sea, and this causes the temperature of the air to rise. Then there are also in-blowing winds, coming from the open sea, blowing even in winter, which contribute to the raising of the average temperature. In contrast to the winters, the summers of the coastal area show the characteristic traits of a maritime climate. The cool masses of air blowing inland from the sea are further cooled by the cold coastal current and contribute considerably to the lowering of temperatures in the coastal area, whereas to the west of the Sikhote-Alin', the influence of the sea on air temperatures is hardly perceptible anymore. The extent /68/ /Climatic Diagram: Okhost; Petropavlovsk/to whichthe Sikhote-Alin' acts as a climatic dividing line in relation to temperatures is demonstrated in the contrasts between the two localities Ol'ga and Voroshilov (formerly Nikolsk Ussuriyskiy), both on

Climate Diagram

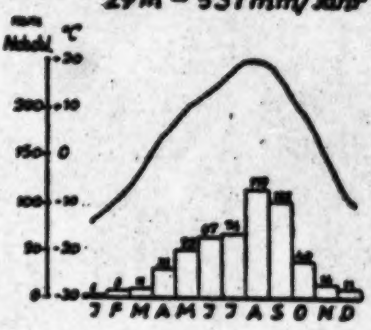
932 BLAGOVESHCHENSK

134 m - 525 mm/Jahr



VLADIVOSTOK

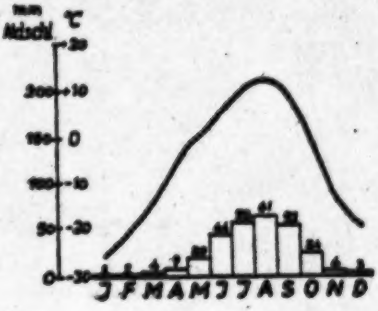
29 m - 537 mm/Jahr



Climate Diagram

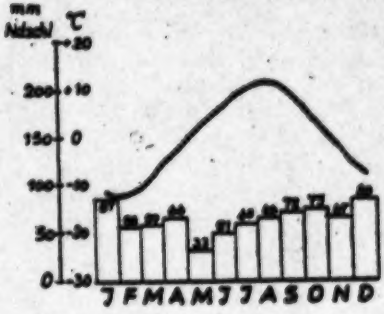
●132 OKHOTSK

6m - 283mm/Jahr



PETROPAVLOVSK

102m - 772mm/Jahr



132 approximately the same latitude and separated by only 275 kilometers:

	Ol'ga	Voroshilov
January	- 11.7°	- 19.5°
July	19.0°	21.1°

Another mark distinguishing the maritime character of the summer climate in the coastal area is the delay in the hottest period of the year; for in all the localities along the coast from Vladivostok to the mouth of the Amur River August is the hottest month, whereas all stations in the interior register July as the hottest month. The longer transitional periods on the coast can also be interpreted in the same way. The transition is not as sudden as in the interior of the Amur and Ussuri areas. Hence there is a longer period of vegetation in the coastal area, reducing in length as you go toward the interior. Ol'ga, for example, has a period of vegetation lasting 185 days, Khabarovsk one of 172 days, and Blagoveshchensk one of 164 days. On the other hand, the raw and humid summer hinders the growth of vegetation. On the eastern side of the Sikhote-Alin' trees generally grow less high than on the western side. North of the 44th latitude mountains higher than 1,200-1,300 meters are usually bare. On the other hand no glaciers form because of the scarce rainfall in winter.

The annual rainfall in the coastal area is as a rule greater than in the Amur and Ussuri area. In the seasonal /69/ distribution of the rainfall, too, the coastal region has a different picture than the interior of the land. The concentration of the rainfall in the summer months is not so strongly marked. Spring and fall have a higher percentage of rainfall. In the following comparison of the monthly rainfall (in millimeters) of Ol'ga and Blagoveshchensk, these traits appear clearly:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Blagoveshchensk	3	1	12	26	38	79	128	136	74	19
Ol'ga	14	13	21	39	85	88	105	132	138	60

	Nov.	Dec.	Total for Year
Blagoveshchensk	5	1	522
Ol'ga	40	17	752

The contrast appears more sharply if the individual seasons are summerized together. (Figures are in millimeters):

	winter	spring	summer	fall	year
Blagoveshchensk	5	76	343	98	522
Ol'ga	44	145	325	238	752

The different type of distribution of the annual rainfall goes back to the cyclone activity. The regular paths of cyclones in East Asia move toward the north with the beginning of and during the warm season. In the early part of the year they reach the coastal area, but they reach the Amur and Ussuri region only in the summer and then withdraw again toward the south; accordingly the coastal area is also visited by numerous cyclones in the fall. Thus the cyclone activity is more active in the early year and fall than in the summer; and accordingly the great part of the summer rainfall undoubtedly goes back to the monsoon winds. However, the entire phenomenon of cyclone activity and also the appearance of the ends of typhoons in the Soviet Russian Far Eastern region has still been too little investigated to make it possible to give more exact and final data. Vladivostok and also the southern Sikhote-Alin' are often, especially in late summer, visited by strong storms, which frequently can take on a typhoon-type, destructive character.

A further characteristic of the coastal climate is the frequent appearance of fogs. These arise where the surface water temperature is lower than the rest of the sea. That is the case in the cold stream off the coast. With the predominance of southeastern winds in the summer periods these warm air masses, satiated with dampness, are borne toward the continent. On passing over the cold water stream they quickly cool off, a phenomenon which is contributed to by the mixture with local, relatively cold air masses. With this the air masses are forced to separate off the excess of dampness brought along, and this happens in the form of fogs. These often /70/ envelop the entire coastal strip for days and are often driven into the land with their damp coolness. This makes especially noticeable the contrast between the completely fog-covered coastal strip and the interior of bays, which remain free of fog. The cape "Nizmennyy Mys" lying before Ol'ga Bay is regularly enveloped in fog on 26 days in June and July, while the city of Ol'ga itself, which lies within the bay and is separated from the entrance to the bay only by a low, forest-covered mountain, has only 9-11 foggy days during the same period. In many years, however, it also happens that the month of July brings fog on 21-22 days.

132 The northern coastal country, reaching from Nikolayevsk on the Amur in the south to Shelekhov Gulf in the north, has a rougher character than the southern part. Okhotsk has a mean temperature for January of -25.2°, while Leningrad--lying at approximately the same latitude--has a mean January temperature of only -7.6°. The raw climate of the summer is traceable not only to the northern position but also very much to the cooling influence of the Sea of Okhotsk with its ice masses, which are preserved along the coast until the beginning of summer. Furthermore, there are the effects of the cold ocean stream along the coast (from north to south) and the cold water strips (see description of the Sea of Okhotsk) with their fogs, which are driven into the coastal area by the constant sea wind, sometimes even going up the Amur to Bureya since no morphological hinderances stand in the way of the penetration of the sea air masses.

The winds have a clearly marked monsoon charater. In the winter they blow from the cooled-off continent toward the sea, and in the summer the opposite is true. But here the contrast in the strength of the wind is remarkable. As a result of the barometric contrast between land and sea of 22 millimeters, the winter monsoon is much more strongly marked than the monsoonal air movement of the summer since then the fall in air pressure is only 6-7 millimeters. Powerful land winds--not uncommonly with the character of a storm--predominate from October to March. In the same period Okhotsk has 83 percent north and northwest winds with a velocity of 5 meters per second and more and only 5 percent calm; Nikolayevsk, which lies 38 kilometers above the mouth of the Amur and thus is somewhat distant from the coast, still has 64 percent land winds with a wind velocity of 3.8 meters per second and only 14 percent calm. In the summer, on the other hand, Okhotsk has only 50-52 percent winds with a velocity of 3 to 3.5 meters per second.

The summer temperatures are very much lowered by the cooling effect of the Sea of Okhotsk, but the influence of this sea doesn't reach far into the land, and on the coast from the Uda Bay to Okhotsk it reaches as a rule only the nearby watershed. Thus the Sea of Okhotsk influences only the mountain slopes inclined toward the sea, while on the other side of the ridge the warm continental summer rules. /71/ Astonishing is the contrast noted by travelers coming in the summer from Yakutsk to the coast. Oppressive heat of 30° and more with a completely clear sky still exists not far from the coast, and the coast has cool, damp, foggy weather with cloudy, overcast skies. Every breath of wind coming from the interior to the coast brings

welcome warmth, even heat, but also the unbearable plague of gnats unknown in the coastal area with its sea wind. Strikingly low is the June mean (Ayan 5.2°, Okhotsk 5.4°), but even August, the warmest month, reaches a mean of only 12-13° (Ayan 12.5°, Okhotsk 13.5°). The winter temperatures are markedly low, since the solid ice belt, which forms off the coast, and the floating ice, which covers the entire northern part of the Sea of Okhotsk, keep away from the coast the moderating influence of the sea. Nikolayevsk on the Amur has a mean temperature for January of -24.5°, Ayan one of -20.3°, and Okhotsk one of -25.2°.

/32

The annual rainfall decreases generally from south to north. Okhotsk receives 283 millimeters of rainfall, and Nikolayevsk 447 millimeters. Ayan with a rainfall of 889 millimeters is an exception both in this and also in winter temperature; this is caused by local conditions. The annual rainfall along the entire coastal area is extraordinarily variable. In rainy years Nikolayevsk receives up to 701 millimeters; in dry years, on the other hand, it receives only up to 199 millimeters. The bulk of the rain falls in the summer and at the beginning of autumn; thus in this period 87 percent of the annual rainfall comes down in Okhotsk and 91 percent in Ayan.

Following the pattern of the rainfall, the cloudiness in summer is greater than in winter. As a mean this amounts in percentage:

	winter	spring	summer	autumn
Okhotsk	37	58	76	48
Nikolayevsk	42	56	60	55

The number of overcast days is largest in June, which has a mean of only 1-4 sunny days. Also the relative humidity of the air reaches 85 percent during this month, which is the maximum for the year.

The blossoming of the vegetation begins after the thawing of the snow cover at the end of May and the beginning of June. In the summer cool and damp days predominate. The winds constantly blowing from the sea often bring fog and a fine, heavily wetting drizzly rain. In late fall the winds abate, the weather is less rainy and is felt to be warmer, but already at the end of September the first snow falls, and the cold of winter sets in. The length of the vegetation period increases from north to south. In Okhotsk it amounts to 109 days (6 May to 24 September), in Nikolayevsk 138 days (22 May to

8 October).

•132 The climate of the northern regions, comprising mainly the Anadyr' area and the Chukchi Peninsula, differs from the other areas in the Far East in the smaller effect /72/ of the monsoonal air circulation, in a long, harsh winter and a short, but comparatively warm summer; the mean temperatures of the warmest months exceed those of the northern coastal region and in part also those of Kamchatka. The farther away from the coast the less the monsoonal influence becomes, the annual range of temperatures increases, and the climate acquires continental traits.

In the vicinity of the coast the winter is still milder, the summer cool. Novo-Mariinsk /now: Anadyr'/, at the bay at the mouth of the Anadyr', has a July mean of 10.4° as opposed to Markovo which is at approximately the same latitude but lies 300 kilometers inland and which has a July mean of 14.1°. Markovo has three months with a mean over 10°, while Novo-Mariinsk /now: Anadyr'/ has only one month, the warmest, whose mean exceeds 10°. In the winter it is the reverse: Novo-Mariinsk /now: Anadyr'/ has a mean temperature for January of -23.3° and Markovo one of -28.7°. The rainfall is generally slight and, with the exception of the southeast (the coast of the Koryak Peninsula has 250 millimeters), nowhere exceeds 200 millimeters. In the summer half of the year, as a consequence of the predominant east winds, the coastal regions mostly have bad weather with numerous fogs, while in the same period dry, windless weather with clear skies and sunshine rules in the interior. Because of the greater warmth and because of the rainfall in the summer, there develop in the river valleys and in protected lowlands forests which consist of alders, willows, aspens, and birches, while in the coastal strip shrubbery at most appears; but mostly there is only tundra vegetation. However, the rule of the warm summer doesn't last long and is replaced by a cool, rainy fall followed already in September by the cold and snow of winter. Then north and northeast winds, which have a great velocity and which are feared for their snow storms, predominate. Many regions, especially mountains, are blown free of snow, while the snow is carried to other places to form great masses, which remain until the beginning of June and sometimes even until August.

Sakhalin

The climate of the island of Sakhalin, which stretches

approximately from the latitude of Hamburg to that of Trieste, is completely included in the sphere of the coastal climate. The reason for the roughness of the climatic conditions at this latitude lies in the position of the island in the vicinity of the Asiatic continent, with its east Asiatic monsoon climate, and the nearness of the Sea of Okhotsk, with its cold water masses, the cold stream with floating ice floes, which stretch along the east coast into the first half of the warm season. Only in the southwestern part of Sakhalin Island is the climate milder, because of a /73/ branch of the warm ocean stream which comes from the south of the Sea of Japan; and it is for this reason that the west coast is milder here than the east coast.

The fact that the island stretches 950 kilometers from north to south and the two mountain chains, which traverse the island in the same direction and follow protectively the valley depression of the Tym' and Poronay lying between the mountain chains, create the differences in the climatic conditions and in the character of the landscape. The degree of coldness in the winter decreases with the measure of the distance from the northern end of the island toward south, while the summer temperatures are equalized. The mean of the coldest month changes from -23.4° in the valley of the Tym' (Kirovskoye) to as much as -8° at the southern tip of the island (Cape Crillon). There is a much smaller difference in the summer temperatures, which are 15° in the central part and 17° in the south. The absolute minimum varies from -48° in the north to -31° in the south. The vegetation period increases significantly in length from north to south. At the northern end it is only 97 days (Okha), in the valley of the Tym' it is 146 days (Kirovskoye), and at the southern end of the island it is 167 days (Korsakov).

The protected central valley depression and the open coastal plains, subjected to the influence of the cold ocean with its constant fogs, show very great differences in thermic conditions, especially in winter; but in summer there are almost no differences. While the January temperatures are -16.6° on the west shore and -23.4° in the central depression, the warmest month on the west coast (August) has a temperature of 16.2°, and the warmest month in the central depression (July) also has a temperature of 16.2°. The difference in the warmest months points to the more continental climatic character of the central depression, which is protected from the influence of the sea; in this depression the warmth rises as high as 32° in the summer, and in the winter the temperature can sink to as low as -48°. The

J32 mean annual temperature variation reaches 39.6° here, while it is 35.3° on the west coast and only 32.8° on the east coast. In comparison with the coast, the central valley depression has more calms, or winds of less velocity. The fog from the coasts, which is brought in by the winds at greater heights over the valley, looks like gray clouds and at most causes a light drizzling rain.

The west and the east coasts lie under the influence of two other seas differing in their temperatures. Near the southwest coast flows a branch of the warm stream coming from the Korean Strait. Only at the beginning does it touch the banks, and then it is pushed from the banks by a cool stream of less size coming from the La Perouse Strait; this cool stream at first accompanies the warm one. The northern part of the west bank and the east bank are, on the contrary, subjected to the influence of cold water masses, which appears on the banks in the west as water driven up /Auftreibswasser/ and in the east as a cold stream. The cold /74/ surface water of the Sea of Okhotsk is the reason for the summer covering of fog, which often hangs for weeks on the banks.

The northeastern and northern winds which in the winter blow over the Sea of Okhotsk, which is cool but not frozen over in the southern part, moderate the coldness of the winter and bring relatively heavy snowfall with frequent snow storms (buran). As a result of the predominant east winds with their fog, the summers are very cool: nowhere does July have a mean above 12°. On the west banks 600 to 800 millimeters of rain falls a year, and of this approximately half falls as snow. The summer is rainy. In July and August there is rarely a day without rain. September generally has the maximum rainfall, and February the minimum. The relative humidity of the air is very high all year round, and amounts on the average to 77-89 percent. While the mountain chains show a certain differentiation in climate in the south, this is not the case in the north of the island, where the mountains flatten out.

The winter period lasts 7 months in the north, 5-6 months in the south. March still has the character of winter everywhere, its mean being -5.3° in the south and more than -11.2° in the north. It is especially distinguished by the appearance of snow storms. For most of the winter the snow lasts no less than 200 days. At the same time the storms provide a very uneven distribution of snow, with many areas remaining free of snow, while in the valley depressions and basins

the snow masses pile up and often can even completely bury human dwellings. Solid ice seldom forms on the east coast even though floating ice floes can often be found on the sea even in June. The Strait of Tatar regularly becomes a solid ice bridge with the continent from December to March. Floating ice forms in the middle of the winter off the southwest coast and in the La Pérouse Strait. Spring is unfriendly and brings frost even in the beginning of June. Summer lasts only 2 to 2 1/2 months in the north, where only July and August are frost-free. The rainfall of summer consists mostly of light but continuous rain. The frost-free period begins earlier in the central depression and on the southwest coast; here June already brings higher temperatures, and July shows the full unfolding of summer. Autumn last two months and is warmer than spring, although the first frost appears in the north of the island in September.

The climatic conditions, especially in the north of the island, are not very favorable to agriculture. Along the flat coastal strip, covering an extensive area in various places, is tundra vegetation with Arctic flora; even today reindeer graze here--approximately /75/ at the latitude between Hamburg and Hanover. The conditions are most favorable in the central depression and on the southwest coast. Here summer wheat, summer rye, oats, and barley flourish.

Kamchatka

The climate of Kamchatka is rougher than could be expected from its latitude. The climate is determined by the peninsula's position between continent and ocean and its closeness to two cool seas and cold ocean streams; however, the coasts are significantly milder in climate than the coast of the neighboring continent. The winds have a monsoonal character. In the winter they blow from the Asiatic continent to the ocean, i.e. northwest winds predominate; in the summer, on the other hand, east and northeast winds predominate. Both in duration and strength the winter monsoon far exceeds the summer one, which appears only in June. In Petropavlovsk the winter monsoon has a mean velocity of 8.1 meters per second; the summer one has a mean velocity of only 4.2 meters per second. In this it must be taken into consideration that the northern half of the Sea of Okhotsk is for the most part covered with ice in the winter and acts as a climate extension of the continent.

But within this general air circulation appears a second, regular

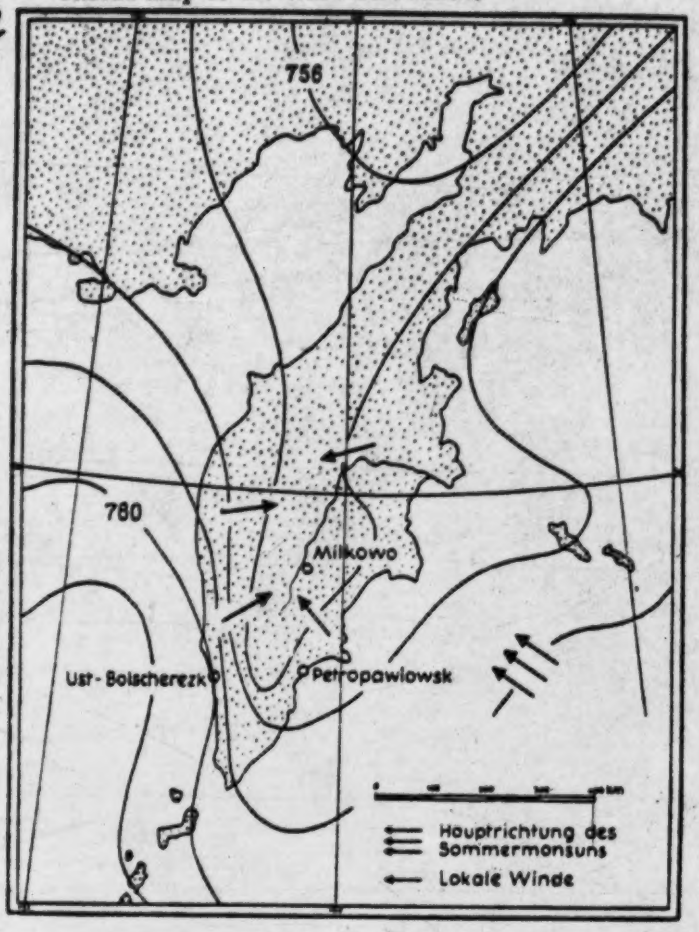
/132 air movement, caused by local conditions; this second air movement in part works against the monsoonal one and plays a not unimportant role in the climatic conditions. In the winter there forms in the center of Kamchatka an area of high air pressure, which, in the form of a narrow tongue, extends into the peninsula from the northeast of the continent and coincides approximately with the Kamchatka Valley, which is protected by mountains on the east and the west; accordingly the air pressure decreases from north to south. The air masses flowing from this high pressure area of their own fall in with the direction of the general monsoon in the east; on the west side, on the other hand, they work against the general monsoon. For this reason the winter monsoon on the east coast (Petropavlovsk) is stronger than on the west coast. In the summer an opposite development is completed within the peninsula. A barometric depression forms over the protected Kamchatka Valley, and accordingly the local winds arising thereby in the east again fall in with the general monsoon direction, while the local winds in the west move against it. These conditions explain the fact that the monsoonal winds both in summer and in winter appear as a typical phenomenon only in the coastal strip, while toward the interior of the peninsula it occurs as a local deviation. The general monsoonal effect in the eastern part of the peninsula is strengthened by local influences. Irregularity and change in the general picture brings the appearance of Pacific cyclones, which, however, have still been very little investigated. In winter their appearance is coupled as a rule with northeast winds.

/76/ /Sketch Map of the Wind Directions:/

The great stretch of the peninsula from north to south, along with the morphological division, changes the general face of the climate in the individual provinces. Characteristic is the decline in the winter temperatures with the distance from the coast and the rise in the summer temperatures and the annual variation in temperature in the same direction. We find the lowest winter temperatures in the Kamchatka Valley, where Mil'kovo has a January mean of -25°, while the coasts have higher temperatures: thus Ust'-Bol'sheretsk on the west coast has a mean of -15.1° and Petropavlovsk on the east coast has one of -11.2°: these last two figures are the mean for February /77/ /Sketch Map of Wind Directions:/ which here is the coldest month. This, too, is a characteristic sign of the contrast between the coastal zones and the interior. In April the temperatures are almost completely the same throughout the peninsula. In summer the interior is again warmer (Klyuchi, July mean 14.7°), while the coasts are relatively cool: thus

Sketch Map of the Wind Directions:

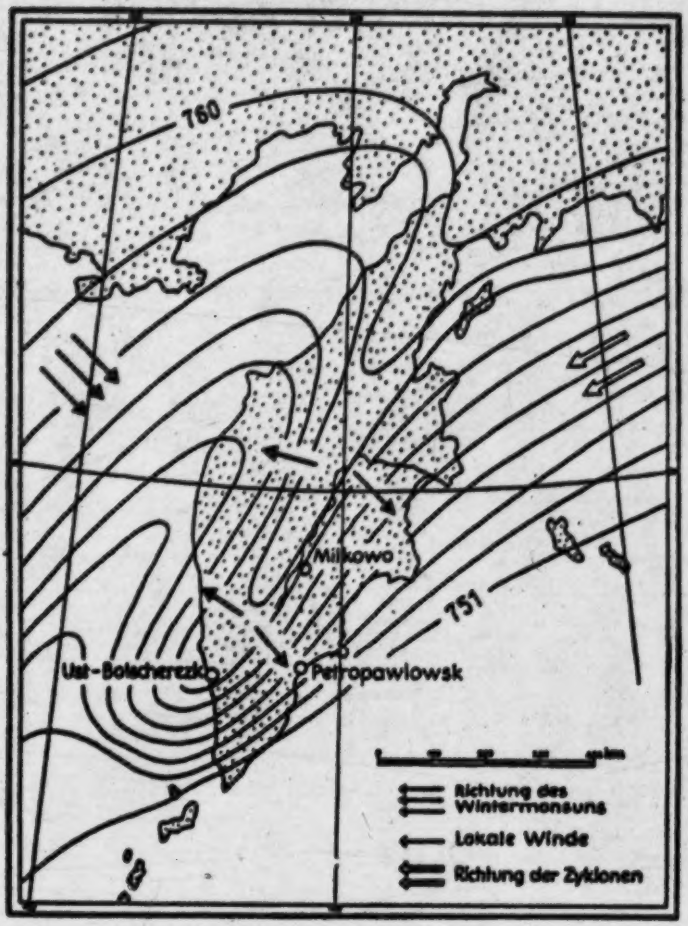
• 132



Main Direction of the Summer Monsoon

Local Winds

Sketch Map of Wind Directions:



Direction of the winter monsoon

Local winds

Direction of the cyclones

Ust'-Bol'sheretsk has a mean temperature for August of 12° and Petropavlovsk one of 11.9°. In October the temperatures are again even over the entire peninsula. The absolute maximum of 28° and the absolute minimum of -50° have been determined in the Kamchatka Valley, where, too, the greatest daily variation of more than 15° has been measured. /78/ In Kamchatka the vegetation period begins around the end of May or beginning of June and ends the beginning of October. It lasts the longest in the interior of the peninsula, while it is significantly shorter on the coasts and in the north. Thus in Klyuchi the length of the vegetation period is 134 days, in Petropavlovsk it is 127 days, in Ust'-Bol'sheretsk 107 days, and in Tigil' (in the north) only 96 days.

The annual rainfall generally decreases from the southeast of the peninsula, where it is more than 800 millimeters, to the northwest, where it sinks to 350 millimeters and less. The coasts receive the greatest rainfall, while the Kamchatka Valley is prominent for its slight rainfall. The number of days with rain ranges between 120 and 200, the number of days with snowfall ranges between 70 and 96. Characteristic of Kamchatka is the great duration of the snow covering, which generally remains almost until the end of May and in the mountains often remains even into June; however, the appearance of the first snow is very late in comparison with the neighboring regions of the Far East. September is as a rule still without snow. In the annual distribution of the rainfall there are two high points--summer and winter--while spring and fall bring slighter rainfall. The relative humidity of the air is higher in winter and summer than in the transitional seasons, and in this the coastal zones exceed the interior. The maximum on the coast (Petropavlovsk) has been recorded in August when it is 87 percent.

Clouding is greater in summer than in winter, but the difference is not so great as in the other regions in the Far East. Within Kamchatka, naturally enough, the coastal regions show a greater clouding. On the west coast (Ust'-Bol'sheretsk) it reaches 89 percent in July, 67 percent in December, while in the Kamchatka Valley (Mil'kovo) it is 69 percent in July and only 49 percent in December. Very sharply marked is the difference between the coasts and the interior in the number of bright, overcast, and foggy days: (Table on following page)

Characteristic of the coastal regions of Kamchatka, especially in summer, are the thick fogs which give the traveler a gloomy impression of the land. In Petropavlovsk it is foggy almost every second day. Fogs dominate the west coast even more, while in the interior

J32 Relative Numbers of Bright, Overcast, and Foggy Days

	January			July		
	bright	overcast	foggy	bright	overcast	foggy
Ust'-Bol'sheretsk	2	14	1	0	25	25
Mil'kovo	18	6	3	3	16	0

fog very seldom occurs in the summer.

Kamchatka can be divided into three regions according to the climate differences: the east coast, the west coast, and the interior.

/79/ The east coast lies under the oceanic monsoon in summer; in winter, apart from the north winds, it lies under the Pacific cyclones coming from the northeast and generally under the cold ocean stream, especially in the north, while in the southern part of the coast the moderating influence of the Pacific is more noticeable. The southeast coast, therefore, with a temperature range of 23.1°, has the smallest annual range in temperature. Winters along the east coast are generally mild (February -11.9° to -13.9°), and the summers are cool (August 11.9° to 12.5°). The nearness of the ocean postpones the extreme months to February and August. The ground freezes only to a slight depth (10 centimeters). In contrast to the other monsoon areas in the Far East there is only a slight difference in rainfall between summer and winter. In this connection the east coast is distinguished by an abundance of winter rain in contrast to the other parts of the peninsula, especially in contrast to the interior. This abundance of winter rain on the east coast is brought by the northeast winds coming from the sea with their cyclones; these cyclones can often bring great quantities of rain in a brief period. Thus 189 millimeters once fell in Petropavlovsk in one day in October (205). In certain winters, especially warm ones,

205. Suslov, S.P., Fizicheskaia geografiia SSSR /Physical Geography of the USSR/, (Moscow-Leningrad, 1947), p. 371.

there is often more rainfall than in the summer half of the year. As a consequence the east coast has a high snow covering with a mean of 130 centimeters, in individual cases even of 300 centimeters (March, 1916). The southeast coast is especially notorious for its days with snow storms and snow drifts. Not uncommonly the snow drifts go up to the roofs of the houses in Petropavlovsk. The snow thaws in May to the beginning of June. In some years the volcanic ash which falls down has an accelerating effect on the thawing of the snow. Summer

on the east coast is distinguished by heavy clouding and numerous fogs. In July as a rule half the days are foggy. 132.

The western coastal area is more under the influence of the Sea of Okhotsk and is dominated in winter by the cold and dry monsoon and northeast and east winds, which come from the center of the peninsula and which are cold and dry, in contrast to the east coast. For these reasons the rainfall in the winter is only a fraction of the summer rainfall: the winter rainfall is only a fourth to a third of the summer rainfall. The snow covering on the west coast is therefore slight, generally reaching only 40 centimeters. However, the distribution is uneven since the winds coming from the mountains often blow the mountains free of snow and pile the snow in the troughs and valleys. However, in contrast to the east coast, snow storms are a rare phenomenon. Summer is cool and especially foggy, the clouding is very great. The local winds, which move into the interior of the island, often carry fog into the land for days and bring a damp coolness, which is of little help to plants. /80-81/Charts on following pages/ /82/ The vegetation period is significantly shorter on the western side of the peninsula than on the eastern side.

The peninsula's central depression, which for the most part is occupied by the valley of the Kamchatka River, is extensively protected from the influences of the sea by two mountain chains on the east and the west; accordingly clearly marked, continental traits can be recognized in the climatic conditions here. Summer is warmer and drier than on the coasts; winter, on the other hand, is harsh but brings less snow than on the east coast, though even more than on the west coast. Characteristic of the central depression are the rapid transition from winter to summer and the warm autumn; accordingly we find here the longest vegetation period on the peninsula. The stone birches unfold their buds already in the middle of May here, while they appear in the coastal areas only around the 15th of June. As a consequence of this favorable condition, Kamchatka's central depression is most favorable for agriculture, which has already spread here on a large scale, while the coastal areas offer more opportunities for developing animal breeding.

The Border Seas of the East

Through its possession of the Kurils and southern Sakhalin, the Sea of Okhotsk has become a Soviet Russian internal sea since 133

/80/ Mean Air Temperatures in Degrees Centigrade

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Transbaykal													
Barguzin	-27.0	-23.4	-12.1	-0.3	7.6	15.0	18.2	15.8	8.6	-0.6	-12.8	-23.8	2.9
Ulan-Ude	-26.7	-21.7	-11.9	0.5	8.1	16.2	19.2	16.4	8.4	-0.9	-13.0	-22.5	-2.2
Troitskosavsk /now: Kyakhta/	-23.1	-19.0	-9.8	1.6	9.4	16.7	19.2	16.5	9.0	0.1	-10.8	-19.1	-0.8
Chita	-27.4	-22.3	-12.4	0.0	7.9	15.7	18.7	15.4	8.2	-1.7	-14.5	-24.1	-3.0
Nerchinsk	-31.4	-25.5	-15.0	-0.2	9.5	17.2	20.5	17.0	9.6	-1.8	-17.0	-28.9	-3.8
Amur-Ussuri-Area													
Blagoveshchensk	-24.2	-18.1	-9.5	2.4	10.4	17.4	21.2	18.7	12.1	1.4	-11.4	-21.6	-0.1
Khabarovsk	-23.1	-17.4	-8.8	2.8	10.9	16.7	20.2	19.6	13.6	4.2	-8.3	-19.4	0.9
Bikin	-22.2	-17.4	-8.7	3.7	11.9	17.0	20.4	20.3	12.6	4.7	-8.0	-19.3	-1.2
Coastal Area													
Vladivostok	-13.7	-10.1	-3.7	4.4	9.5	13.6	18.1	20.6	16.5	9.3	-0.5	-9.6	4.6
Ol'ga Bay	-11.7	-8.8	-2.8	-4.2	8.6	12.4	16.9	19.1	14.5	7.1	-1.8	-9.7	4.0
Nikolayevsk	-24.5	-19.8	-12.7	-2.6	3.6	11.4	16.7	16.1	11.4	2.0	-9.9	-20.1	-2.1
Ayan	-20.3	-15.7	-10.1	-2.8	1.7	5.2	12.2	13.5	10.1	0.2	-10.6	-17.6	-2.9
Okhotsk	-25.2	-20.5	-14.5	-6.0	0.3	5.4	11.7	12.5	8.1	-2.3	-15.4	-21.9	-5.7
Kamchatka													
Petropavlovsk	-11.0	-11.2	-7.2	-2.0	2.2	6.7	10.6	11.9	9.2	3.9	-2.5	-7.6	0.2

(Chart continued on following page)

/80/ Mean Air Temperatures in Degrees Centigrade

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Bol'sheretsk	-13.6	-15.1	-10.1	-2.5	2.1	5.0	11.0	12.0	7.8	-2.4	-3.5	-10.2	-1.2
Sachalin													
Aleksandrovsk	-19.1	-15.6	-9.6	-0.2	5.2	10.8	15.5	16.2	12.0	4.1	-5.6	-13.9	0.0
Korsakov (Otomari)	-11.2	-9.9	-5.3	-1.2	5.3	9.6	14.5	16.8	13.7	7.2	-0.6	-7.2	2.8
Far North													
Markovo	-28.7	-25.7	-23.3	-15.2	-2.4	10.0	14.1	10.1	3.0	-8.6	-19.7	-26.3	-9.4
Novo-Mariinsk /now Anadyr'/	-23.3	-21.3	-19.9	-14.9	-3.8	4.9	10.4	9.4	3.7	-4.8	-15.1	-21.5	-8.1

3: Thiel--87 K-4,5 (no date) 1953 RRL Siberia RRL

/81/ Rainfall and Distribution in Millimeters

	Height in meters	Annual total	Summer half of the year	Winter half of the year	June, July, August	December, January, February
Transbaykal						
Barguzin	500	200	200	60	131	29
Ulan-Ude	542	202	179	33	127	12
Troitskosavsk /now: Kyakhta/	760	280	256	24	161	10
Chita	683	319	285	34	217	9
Nerchinsk	484	281	249	32	180	10
Amur-Ussuri-Area						
Blagoveshchensk	134	522	481	41	343	5
Khabarovsk	50	564	487	77	349	18
Bikin	73	616	496	120	308	29
Coastal Area						
Vladivostok	29	537	446	91	260	24
Ol'ga Bay	45	752	587	165	325	44
Nikolayevsk	21	447	300	147	168	48
Ayan	10	889	665	224	441	36
Okhotsk	6	283	244	39	163	7
Kamchatka						

(Chart continued on following page)

/81/ Rainfall and Distribution in Millimeters

	Height in meters	Annual total	Summer half of the year	Winter half of the year	June, July August	December, January, February
Petropavlovsk	102	772	348	424	177	215
Bol'sheretsk	10	525	389	136	207	52
Sachalin						
Aleksandrovsk	16	600	335	265	174	104
Korsakov (Otomari)	37	494	304	190	325	77
Far North						
Markovo	26	200	142	58	103	25
Novo-Mariinsk /now: Anadyr'/	5	189	138	51	94	25

3: Thiel--89 K-4,5 (no date) 1953 RRI Siberia RRI

Map of the Sea of Okhotsk:

132
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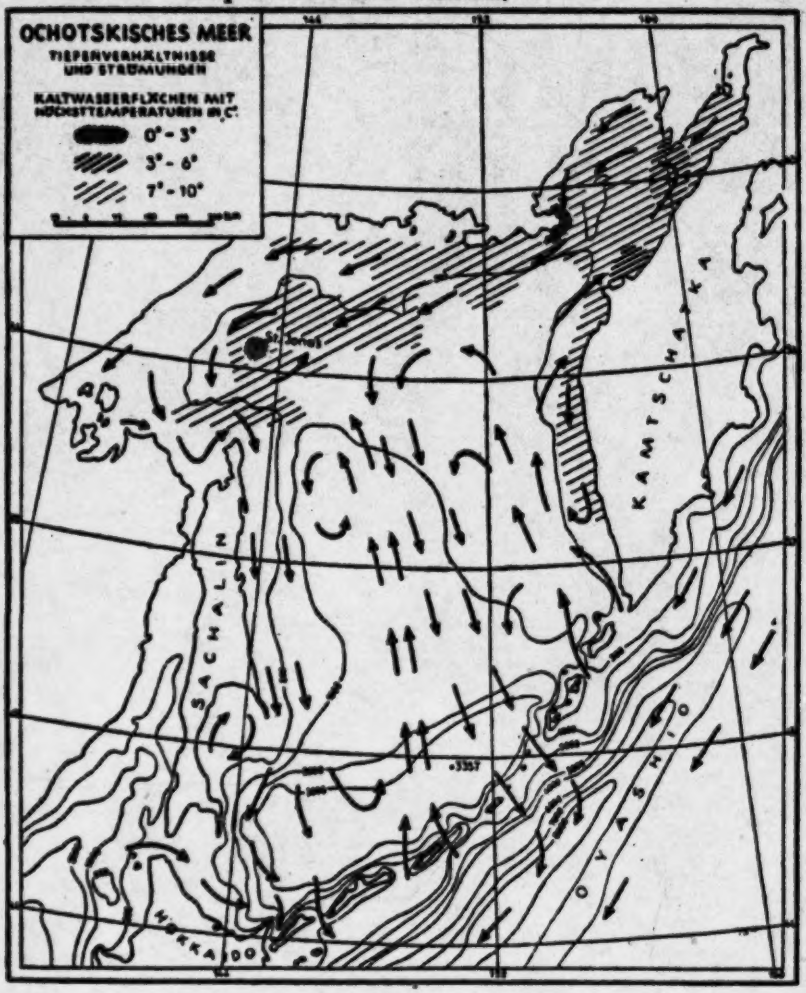

Depths and Currents; Cold water areas with highest temperatures in degrees centigrade

takes place. The Pacific surface water enters the Sea of Okhotsk 133
through one series of sea connections between the Kurils, while through others there is a surface flow of water from the sea to the ocean. At the deeper levels of water the exchange works in the opposite direction from that on the surface. Since only four of the sea straits between the Kurils are over 500 meters deep, and of these only two are over 1,000 meters deep, and since, in addition, their breadth is very slight, the exchange of deep water is kept within very limited borders and has as good as no influence in the sense of an equalization of temperature between sea and ocean. In this the bulk of the water layers of the Sea of Okhotsk, which lie more than 1,000 meters deep, cannot be drawn at all into an exchange.

Even though the picture is somewhat confused by the numerous openings and their various current directions, a clear sea current can nevertheless be recognized within the Sea of Okhotsk; this sea current moves counterclockwise along the coast. It enters the Sea of Okhotsk south of Kamchatka Peninsula and moves toward the north along the west coast of this peninsula; in the north, however, it is pushed somewhat off the coast by a cold water stream coming from the north. In Shelekhov Bay the current turns and follows the coast toward the west. This turn in the bay and the slanting stretches following the coast lead to the presence of cold water upwelling /Auftriebwasser/, which is drawn into the general current; this general current then follows the west coast farther, washing up around St. Jonas Island. Strengthened by the influx of water from the Amur, the current then runs along the east coast of Sakhalin toward the south, where it unites with the water stream coming from La Perouse Strait, and then again reaches the Pacific Ocean through the southern gaps of the Kurils. The currents in the middle of the Sea of Okhotsk fit into the framework of the main current described.

Tides appear on all of the Sea of Okhotsk. The tidal wave comes from the Pacific Ocean and enters the area of the Sea of /85/ Okhotsk through the gaps between the Kurils; the tidal wave is strongest in the middle of the island chain and then spreads out almost equally. The range has a mean of 4 meters in the open parts of the coast, but in the interior of the great bays it grows strong and reaches, for example, 11.3 meters in Gizhiga Bay.

The long, cold winter with its raw winds blowing from the 132
mainland causes a marked cooling off of the water; the short and cool 133
summer with predominantly heavier clouding and numerous fogs brings

132
133

only a slight warming up; and accordingly the temperature of the surface water layer rises only a little above 10° in the summer. This seasonal rise in temperature applies, however, only to the water levels to a depth of at most 30 to 50 meters, while the layers lying under this have a constant temperature, which is negative /in Centigrade/. Investigations have shown that the water temperature at first gradually decreases as the depth increases and then with a leap the water temperature reaches 0° already at a depth of 15 meters. Then the temperature lowers only very slowly, reaching -1.5° at depths from 75 to 150 meters. Then follows a slow rise in temperature until the bottom of the sea, where a temperature of 1.2° dominates in the north and one of 2.5° dominates in the southern part of the sea. With the formation of ice and the crystallization of salt, the surface waters can become so thick that they sink toward the depths.

Characteristic of the Sea of Okhotsk are constant cold water zones, which are a permanent phenomenon in certain areas and which give these parts of the sea a special stamp. These cold water zones are related genetically to the current conditions and can be explained as upwellings /Auftriebswasser/. Three such regionsshould be named above all: the one off the Yama Bay in the area of the Yamsk Islands; the one around Jonas Island; and the third in the open sea approximately between the north end of Sakhalin and the Shantar Islands. Within the first two cold water areas mentioned, the water temperature never rises above 1°, and in areas around these places it always remains 3° to 5° below the mean temperature of the sea. Off the entrance to the Penzhina Bay the water temperature even in high summer is never higher than 5° to 6°. The current emptying into the Shelekhov Bay turns here within the bay again toward the exit and draws upwelling /Auftriebswasser/ from the smaller bays toward it; the appearance of the latter off the Yama and also the Penzhina bays is especially striking. From the Yama Bay the cold upwelling stretches toward the southwest and thus in the direction of the general current; in this the upwelling water gradually and partially warms up on the surface or in part also sinks down, but certain cold water stretches are nevertheless recognizable. The sea bottom elevation of the massif around Jonas Island, it is assumed, causes /86/ again the rise of cold water layers, which are very characteristic of the environs of the island. The water is never warmer than 1° in the vicinity of the island and never more than 1° to 3° a bit farther off the island. The cold water zone lengthens from Jonas Island then toward the south, where there is still further

cooling off between the Shantar Islands and the north end of Sakhalin; the cause of this is regarded as the strengthening of the general current by the addition of the water masses of the Amur. 132 133

The cold water zones are noticeable in summer because of the heavy formation of fog, which becomes heavier in relation to the contrast between the air and the water temperatures. For weeks in the summer there often lies over these regions thick banks of fog, which clear up only with bad weather. Nowhere in the Sea of Okhotsk is the fog so constant and so thick as in the area of the Yama Bay and around Jonas Island. The winds contribute to the spreading of the fog, and accordingly it also appears over regions with relatively warm water. But the source of the fog is clearly the cold water areas, where new masses of fog always form. These masses of fog are characteristic for the entire north of the Sea of Okhotsk and hinder sea traffic.

Since the Sea of Okhotsk projects far into the mainland mass of the continent--the low winter temperatures are, of course, known--a solid ice covering forms already in December along the entire coast from the Strait of Tatar in the south to Penzhina Bay in the north. In February the entire northern half of the sea is covered with floating ice, and the ice floes are often shoved together into a closed covering until a storm again tears them apart. Only by the middle of June is the bulk of the sea entirely free of ice. Further discussion of the ice covering and its significance for man is given in the section on sea transportation.

The salt content of the Sea of Okhotsk is slighter than in the neighboring seas and varies between 32 percent and 32.5 percent. The salt content increases with the depth and reaches 33.5 percent to 34.5 percent at the bottom of the sea. 133

The Bering Sea

The Bering Sea is the most northerly border sea of the Pacific Ocean, from which it is separated by the islands of the Aleutian chain. However, the closing between the Bering Sea and the Pacific is not so shut off as is the case with the Sea of Okhotsk, since between the Commander Islands and the beginning of the Aleutian chain there is a connection which is up to 342 kilometers wide and up to more than 3,000 meters deep. Accordingly an exchange of water up to this depth can go on unhampered. The connection via the Bering Strait /87/ /Map of the Bering Sea:/ /88/ to the northern Polar Sea has, on

A part of the entering mainstream of the Bering Sea enters the shelf and with moderate speed draws in a northward direction over the Bering Strait into the Chukchi Sea. This current is reinforced by another Pacific current that presses in over the Unimak Sea strait (west of the island of the same name), immediately contacts the shelf and then flows alongside the west coast of Alaska along with the central current, and then via the Bering Strait into the Polar Sea. The accompanying sketch map serves to orient the reader as to further details on the currents of the Bering Sea.

For the most part the surface water temperature depends upon the general climatic conditions. Located in high latitudes /89/ and situated in between the mainland mass of northeast Siberia and northwest America with their long and servere winters, the Bering must be designated as a very cool sea. In the summer the surface waters along the shelf areas manage to warm up only to a limited degree and then, apart from the warm currents, reach temperatures of only 7 to 9 degrees. The surface water in the deep sea basin is as a rule warmer and reaches a warmth of from 10 to 11 degrees. It is of special significance and worthy of note that the surface waters of the Bering Sea, because of the permanent inflow of warm water from the Pacific throughout the whole year, cause the temperature of the Bering Sea to have a year-round temperature higher than that of the air. A. A. Borisov (39)

39. Borisov, A. A., Klimaty SSSR /The Climate of the USSR/, (Moscow, 1948), p. 122.

has published the following table:

Month	Water Temperature	Air Temperature
January	-1.0°	-3.8°
April	1.6°	-0.9°
June	10.3°	8.5°
October	6.9°	4.3°
Annual	4.7°	2.1°

Because of the exchange of deep waters with the Pacific Ocean, the deep-water temperatures of the Bering Sea are completely different from those of the Sea of Okhotsk. From a summer surface

temperature of 10°, at a depth of 30 to 40 meters, the temperature gradually drops from 4° to -6°. At 100 to 150 meters lies the coldest water level, with a temperature of from 0.5° to 1.0°. Below this depth, at from 200 to 500 meters, the temperature again rises to as high as 3.5° and then gradually drops again to from 1° to 2° at depths from 2,000 to 3,000 meters. The coldest surface water is found in the Olyutorskl and Anadyr' bays. Both are characterized by constantly rising deep waters and especially strong clouding. The cold, southward-flowing current along the east coast of Kamchatka also creates thick fog banks, which are a special feature of the Kamchatka coast.

The salt content of the Bering Sea is, in general, high, reaching 32 percent at the surface and rising at a depth of 3,000 meters to 34.5 percent. It is only in the extreme north that the salt content diminishes, becoming at this point 27 percent, because of the influx of fresh water from the Anadyr' and Yukon.

During the winter all along the coast of the northern part of the Bering Sea, a solid ice sheet forms, in front of which is a broad area covering with floating ice floes, which also cling to the east coast of Kamchatka. The edge of the floating mass of ice runs somewhat south of the rim of the ice shelf and is parallel to the shelf. Off Anadyr' Bay and the entrance to the Bering Strait the floating ice accumulates and becomes thick pack ice. The warm water current causes the ice to melt very early, however. By the middle of May it remains only along the Asiatic coast, /90/ and in June it still remains only at Anadyr' Bay. By July the Bering Sea is completely ice free, and the ice edge recedes back to the Polar Sea.

The Sea of Japan

The Sea of Japan stretches between the Asiatic continent to the west and the islands of Sakhalin, Hokkaido, and Hondo /Honshu/ to the east. It is connected with the East China Sea by way of the Korea Strait (depth: 167 meters), with the Pacific Ocean by the Straits of Tsugaru (106 meters) and Shimonoseki (30 meters), and with the Sea of Okhotsk by La Perouse Strait (55 meter) and the now blocked-off Tatar Strait (8-10 meters). In view of these relatively shallow connections to the neighboring sea areas, the Sea of Japan stamps itself as a clear sea basin, of which more than half is at a depth of 2,000 meters and approximately one quarter has a depth of 3,000 meters. The descent of the sea floor to a depth of 2,000 meters is far more

133 Current and there finds its end. On the way, the cold water current is strengthened by upwelling water, which is noticeable along the coast of the Sikhote-Alin', especially south of Ol'ga Bay, and which is distinguished not only by its greater coolness but also by its higher salt content. Where the cold water current encounters the warm current, a cold water front forms which, however, does not always remain in the same place in the course of the year. In winter the cold current appears to attain a greater strength and moves the cold front to the south, while in summer the cold front again withdraws to the north. (116)

116. Lautensach, H., Korea, (Leipzig, 1945), p. 118.

132 133 Because of the fact that the Sea of Japan extends so far from north to south--the Tatar Strait lies somewhat below the 50th latitude and the Korea Strait below the 35th latitude--the surface water temperatures in the various parts of the sea and in the course of the year are very different. In the area of the Korea Strait the surface water temperature varies between 26° and 14°, in the region of the Tsugaru Strait it varies between 24° and 5°, in La Perouse Strait it varies between 22° and 1.4°, and in the northern part of the Tatar Strait it varies between 17° and -2°.

The temperature of the water sinks very rapidly as the water gets deeper. In July, 1928, in the middle of the sea the temperature at the surface was 20.4°, at a depth of 50 meters it was still 3.4°, and at a depth of 100 meters it was only 0.8°. The last-mentioned temperature remains at depths of 500 meters and more. Nowhere, even at greater depths, has a lower temperature been determined. (205)

205. Suslov, S.P. Fizicheskaia geografiia SSSR /Physical Geography of the USSR/. Moscow-Leningrad, 1947.

133 In winter the Tatar Strait is regularly closed by a solid ice sheet to approximately 50° N. Otherwise such an ice covering is formed only in the bays of the Soviet Russian Maritime Krai; this applies, however, to bays as far as Vladivostok, whose harbor can be kept open during the three winter months only with the help of ice-breakers. Floating ice, however, can be encountered regularly every winter in the northern part of the Sea of Japan as far as a line approximately from the middle of the island of Hokkaido to the Korea Bay.

Tides are noticeable in all the Sea of Japan, but not in great measure. The tidal wave enters the Sea of Japan through the broad Korea Strait but then spreads so quickly that it is observed at practically the same time on all coasts. The range between high and low tide decreases the farther away one gets from the Korea Strait. Thus in Pusan it is still 2.10 meters, at the mouth of the Tumen it is only 0.30 meters, but it rises in the narrows of the Tatar Strait to as much as 2.70 meters.

The current conditions and the various water temperatures affect the neighboring coastal regions in a remarkable fashion. On the mainland side the winters are under continental influence /93/ and bring a high degree of coldness. This applies especially to the Soviet Russian mainland coast and to Sakhalin. As a consequence the appearance of ice off the mainland coast extends farther to the south than it does in the eastern part of the Sea of Japan. Even in late spring the cold current brings in floating ice floes along the coast toward the south. In summer the cold coastal current along with the predominant east and southeast winds temper the air temperatures of the mainland coast. It is the source of the fog forming along the entire coast, especially during the summer; for the thickness and duration of the fog are greater in relation to the temperature contrast between the air and the surface of the water. This applies especially to the sea areas off the Soviet Russian coast, which with southeast winds predominanting are enveloped in thick, cool fogs.

The salt content of the Sea of Japan is greatest in the south where water with a salt content of 34.56 percent enters through the Korea Strait; the salt content is smallest in the Tatar Strait, where it amounts to 31.96 percent. In winter the salt content of the surface water rises and can reach up to 35.0 percent. The reason for this can be found in the slightness of the winter rainfall and in the decreased inflow of fresh water from the rivers.

A distinguishing mark of the Sea of Japan, important for sea transportation, is the frequent appearance of storms, which are especially numerous in spring and fall. They appear in the train of cyclones, which come from the mainland or the East China Sea and make use of the Sea of Japan as a route to the northeast. The number of these storms is not so great in the summer as in the transitional seasons, but they are of greater violence, especially in late summer when equatorial whirlwinds press into this region as typhoons and develop great wind velocities. In winter, on the other hand, the con-

[i.e. in the Sea of Japan--Analyst]

132 tinental cold air front forces the paths of the cyclones toward the south and southeast, and accordingly their activity is limited more to Korea and the eastern part of the Sea of Japan and scarcely touches the Soviet areas.

The World of Plants

137 The vegetation, too, can be divided according to the climatic provinces. However, here the vegetation has not shaped special formations of its own, but rather has a general transitional character. In Transbaykal the Siberian taiga turns into the Mongolian steppe vegetation, and on the Amur and Ussuri typically Manchurian plants extend beyond these rivers and intermix with representatives of the Siberian evergreen woods. Only in the region of the coastal climate have some special forms of the plant world developed which are peculiar to this region alone.

/94/ In Transbaykal the steppe vegetation penetrates very far toward the north. Often it appears in islands in the middle of closed forest regions. In the valley of the Upper Angara we find feather grass (Stipa pennata) and fescue grass /Schafschwingel/ (Festuca ovina) as typical representatives on the southern slopes, while the northern slopes are covered with thick larch and pine forests. In the valley of the Barguzin feather grass and artemisia steppes are spread out not far from one another. Also the well-known Nerchinsk Steppe, better designated, however, as a forest steppe, is an island closed off in itself and approximately 100 kilometers long and just as wide. In general the character of a meadow steppe predominantes here, but in lower areas salt ground appears with numerous xerophilous plants. The steppe, however, attains its greatest area, here closed off, in the southeast between the upper courses of the Argun and of the Onon. This Argun Steppe begins in the north as a meadow steppe and turns toward the south into an artemisia steppe, which already gives the impression of being a semiwasteland. West of the Onon the pure steppe appears only in spots, and only in the Selenga area does it have a significant size. Here, between Novo-Selenginsk and Troitskosavsk /now: Kyakhta/ lie alluvial sands, which are often laid bare and which show an almost wasteland character with wandering dunes /Wanderdünen/ and inlaid Salzpfanne /salt pans/.

The ground relief is of decisive importance in determining the extent of the forms of vegetation in detail. The steppes as a rule re-

/125/ THE ECONOMY

Agriculture

Among the various branches of the economy agriculture stood in the foreground in 1938. Of the entire population 55.8 percent were attached to agriculture; the percentage of those in agriculture in the various regions was as follows: 162

	rural	urban
Buryat-Mongol ASSR	70 %	30 %
Chita Oblast	56 %	44 %
Khabarovsk Krai	55 %	45 %
Maritime Krai	49 %	51 %

In the interval these relationships have changed substantially. The increase in the total population up to 1950 was 35.6 percent, and the bulk of this was in the industrial sector; accordingly the urban, i.e., the industrial population has a majority today in the entire area of the Far East. Among the various regions the Buryat Mongol ASSR has retained its overwhelmingly agricultural character. The same can also be said of the Amur Oblast newly formed in 1948, though this cannot be verified in figures.

The natural conditions for agriculture are completely favorable in the southern parts of the Far Eastern region. All of Transbaykal lies within the 5° May isotherm, and the Amur Oblast is included in the main in the 10° May isotherm. The brief transition from winter to summer lengthens the vegetation period, which is generally sufficient here. The harsh winter, however, limits cultivation, and accordingly summer cultivation predominates. The rainfall causes difficulties. While a heavier rainfall could be desired for Transbaykal, the rainfall in the Amur and Ussuri regions exceeds the amount necessary, and this results in certain restrictions. The great dampness hampers the ripening of the grain in the fields and fosters the appearance of vermin. Water often remains standing on the flat fields and often leads to the rotting of the plants. Accordingly the Russians are forced to give up European flat cultivation /Flachbau/ in favor of furrow cultivation /Furchenkultur/, in which the grain is sown on heaped up earth so that the water collects in the furrows in the ground and can there seep in or flow off /126/. 241 132 241

The method is used with success everywhere in the Far East by the

505 the entire Far Eastern coast. Nature has through winter ice barriers drawn an often very narrow limitation, in terms of time, on the usefulness of the sea route.

132 On the Sea of Japan freezing of the coast and freezing over of the rivers occurs relatively early along the Soviet Russian coast in the entire area north of 42° latitude as a consequence of the cold winds coming from the continent. The harbor of Vladivostok, however, [504] can be used all through the year. To be sure, the "Golden Horn" freezes over in the second half of December, and the ice covering remains until into the second half of March, but the ice is not so thick that a path cannot always be made by ice-breakers for the incoming and outgoing ships. Even here, however, the undisturbed ice can attain a thickness of up to one meter.

Far more unfavorable are the conditions in the Gulf of Tatar, which separates Sakhalin from the mainland. In the southern part the ice distribution and with it the accessibility of the coast depends on the prevailing winds. With persistent northwest winds the ice piles up on the western coast of Sakhalin; with east and southeast winds, on the other hand, the ice is driven toward the mainland coast. North of 51° latitude the ice covering is thicker; there the gulf is covered by a closed ice covering throughout approximately 125 days a year, and passage is free only at the beginning of May. The individual bays, however, on which the coastal towns lie, are closed over earlier and also remain shut off by ice longer. The Amur at Nikolayevsk has an ice covering for a mean of 184 days. The table appended to this chapter gives details on this.[1]

As a consequence of the northwest winds which set in already in September and especially in October, the Sea of Okhotsk comes under continental influence early. At the end of October and in the first half of November ice formation begins along the northern coast. The thickness of the ice grows until into March, persists through April, and only in May does the disintegration of the ice begin. Almost at the same time the breaking up of the ice also begins, at first at the mouths of the rivers and then along the coast. This type of breaking up fosters the destruction of the solid coastal ice, which is then further broken up by the wind and battered by the waves. As a consequence of the current the ice is driven toward the west and southwest and collects in Udskaya Bay and at the Shantar Islands in the southwestern corner of the Sea of Okhotsk. As a consequence of this the ice persists the longest in these places. Even in July large ice fields can be

[1] [cf. pp. 231-232 -- Analyst]

encountered there. Thus the steamer 'Tula' ran into extensive drift-ice fields between the mouth of the Amur and the Ayan between the the 20th and 28th of July, 1916. It /199/ /Sketch Map of the Highest Level of Ice Distribution/could neither get into Uiskaya Bay nor sail toward Nikolayevsk on the Amur and had to return to Vladivostok via La Perouse Strait with its load without having reached its goal. Equally noteworthy is the fact that on January 20, 1940, the merchant steamer 'Igarka' was able to reach Ayan without impediment and without the aid of icebreakers. It was the first attempt at a winter trip in this territory. On the return journey, however, the ship became locked in heavy ice and required the icebreaker 'Krassin' to free it. Apart from the southwest corner and the northwest bays /200/ the Sea of Okhotsk is generally ice-free in June. The bays on the north coast are already completely blocked by solid ice by the end of November. This solid ice covering then grows all along the coast farther into the sea. Penzhina Bay provides one exception to this rule. The formation of a solid ice covering is prevented at Penzhina Bay by a tidal current with a tidal hub /Tidenhub/ of up to 12 meters. Heavy pack ice masses thus collide. The ice lasts both here and in the neighboring Gizhiga Bay until the middle of July.

/132 [505]

The ice conditions appear to be most favorable on the western coast of Kamchatka. The northeast and east winds break up the ice near the coast and drive it into the sea. Even in the middle of winter a strip of ocean is kept open in the vicinity of the coast, while at a greater distance from the shore heavy masses of ice remain fixed throughout the entire winter.

The passages between and the coasts of the Kurils, which lie between Kamchatka and the Japanese Hokkaido, are stopped up with drift ice from January to the end of March when the winds are from the west and northwest, but otherwise they are passable: the farther to the south the easier the passage. Often drift ice between the southern Kurils is driven out far into the Pacific, where drift ice can be encountered in May and even into June if the winter has been especially harsh.

The eastern coast of Kamchatka, in so far as it belongs to the Pacific Ocean, has no ice formations which interrupt ship traffic. To be sure there is drift ice everywhere, but this collects into larger masses of pack ice only on the sand banks in the vicintiy of the coast. Solid ice forms in the bays--for example, in Avacha Bay, on which Petropavlovsk, the capital of Kamchatka, lies. However, the ice

3: Thiel-227 K-4,5(no date) 1953 RRI Siberia RRI

Sketch Map of the Highest Level of Ice Distribution:

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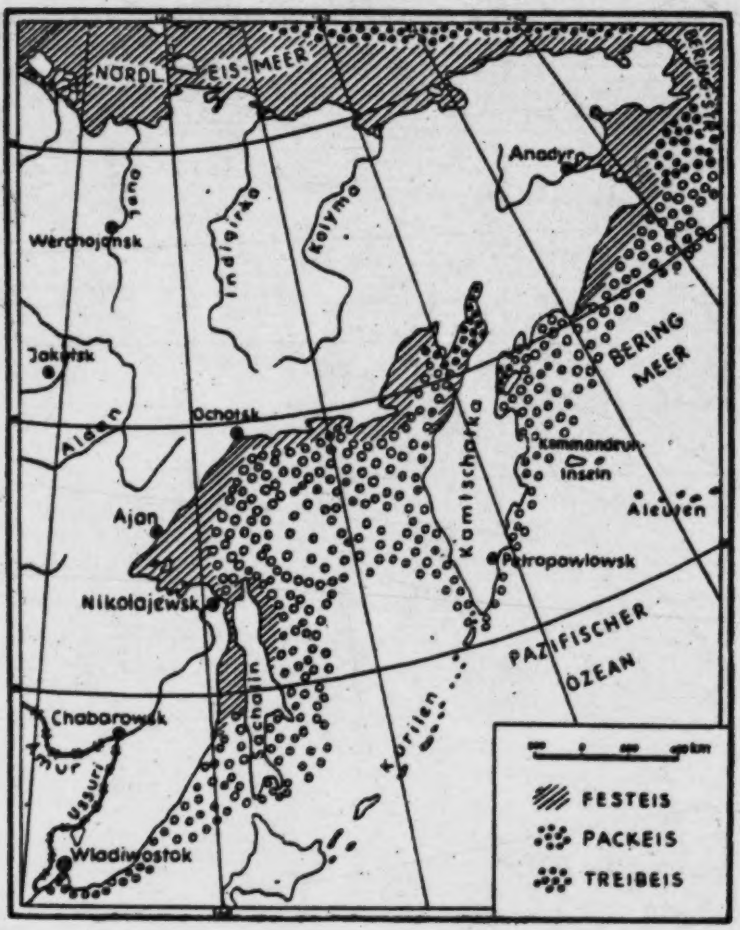

Solid ice
Pack ice
Drift ice

132 covering, which lasts here from the middle of December to the beginning of April is not thick, and it can be kept open at all times with the help of icebreakers.

In the Bering Sea the ice difficulties along the coast increase toward the north. Heavier solid ice forms in the bays and on the coast, the drift ice lasts longer and increases in thickness and strength. Litke Strait between Karaginskiy Island and Kamchatka is stopped up with drift ice from the end of December to the middle of May, but between the mainland and the island it freezes over only very rarely. This was the case in 1918-19, and, accordingly, the Koryak population of the island could reach the mainland with their herds via the ice covering at the beginning of March, when the shortage of fodder for their reindeer was too great. Korff Bay, on which coal is mined, is closed by ice from the beginning of December to the end of April. The coast between Olyutorskoye Bay and the Anadyr' Gulf as a rule has a belt of solid ice and pack ice stretching out in front of it from November to May. The Anadyr' Gulf itself freezes over in the second half of November and remains closed until the beginning of May. Drift ice lasts still longer. In Provideniya Bay the first ice appears already /201/ in September, but only at the beginning of November does the solid ice covering close up. In the course of the winter this ice covering reaches a thickness of 3 to 4 meters.

In the open part of the Bering Sea in the north light drift ice appears already in mid-October. According to the reports of American whalers, a solid ice covering forms around St. Lawrence Island at the end of December. Drift ice has been determined here until the end of July. In the southern part of the Bering Sea there is seldom impeding ice. In the sphere of the Commander Islands the sea as a rule does not freeze over. In the northern part of Bering Sea the movement of ships is generally possible from the end of May to the middle of October; in Bering Strait, however, it is possible as a rule only from the middle of June to the beginning of October. In the beginning of November the sea in the area of the Bering Strait is covered with heavy pack ice. According to some reports, the sea between Cape Dezhnev, the Diomede Island and Cape Prince of Wales is so extensivley frozen over from February to March that traffic over the ice is possible between the Chukchi Peninsula and Alaska.

Ice conditions in the northern part of the east Siberian coast are most favorable for shipping in August and September. The western part of the Chukchi Sea and the eastern part of the East Siberian

Sea--i.e., the regions on both sides of the Long Strait--generally offer the greatest difficulties for shipping. Ice formation sets in the end of September to the beginning of October, beginning first in the areas near the coast, where the salt content of the [illegible] water is lowered by the rivers emptying into the ocean. From the coast the ice then grows out into the sea, forming an uninterrupted ice covering by the end of November to the beginning of December. This solid ice stretches in winter to approximately the line where the ocean becomes 25 meters deep, and, accordingly, the width of the ice fluctuates considerably depending on the depth conditions. At the new Siberian Islands the ice extends from the coast out into the sea beyond these islands and, being 350 kilometers and more wide, it attains here the greatest width in the Arctic. Approximately the beginning of April the first signs of the breaking up of the ice appear. In May and June there is an active formation of splits. As the season progresses the great ice fields become smaller and smaller and finally become ice floes, between which a ship can go. The farther to the east one goes the later the breaking up of the ice begins; in the Chukchi Sea it usually does not begin until July. The deeper parts of the North Polar Basin are covered with Arctic pack ice, which toward the end of winter has a thickness of 3 to 3.5 meters. In the course of the summer this sinks to 2 to 2.5 meters. Through tidal currents, surface currents, and the effects of the wind, strains and pressings occur, which lead to a pressing together and with this to the formation of pack ice, whose height in places can reach 10 meters and more. Since the water movement on the shelf as a rule is toward the east, while over the deeper water the movement is directed toward the west, holes in the ice often appear in the border zones, forming here large splits, which at times can be traveled through. These split zones, which are called "polynia" (= ice-free places) by the Russians, /202/ extend from west to east through the entire Arctic part of the sea. In the Chukchi Sea it often appears right on the coast. With a north wind these ice-free areas disappear completely. The Arctic pack ice then grows together with the solid ice of the shelf. If the wind changes suddenly, then the pack ice is driven toward the north, and the polynia arrises anew.

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As the attached table shows,[1] ice conditions in the entire coastal area of the Soviet Far East vary greatly from year to year and even change a great deal within a single year. A well expanded network of meteorological observation stations, along with an ice information

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[1] [Cf. Cat. 116, pp. 231-232 -- Analyst]

•132 654 service and help from ice-breakers, could very much expand the usefulness of the parts of the sea threatened by ice. And here the Soviet government has accomplished excellent work worthy of recognition.

505 The center of all the coastal traffic is Vladivostok, from which all lines start. Sea traffic is most active in the most southerly part of the coast as far as Nikolayevsk on the Amur. However, the more northerly localities are also visited regularly several times a year. The longest line leads to the mouth of the Kolyma, whence a trip by one or even several steamers at the same time is undertaken every year. Of the 2,021,000 tons of goods turned over in the harbor of Vladivostok (1935), 864,000 tons came from coastal traffic.

The following figures on distances may explain transportation conditions:

Coastal Steamer Lines

Distances from Vladivostok

Sovyetskaya Gavan'	1,075 kilometers
Aleksandrovsk on Sakhalin	1,335 kilometers
Nikolayevsk on the Amur	1,575 kilometers
Okhotsk	3,210 kilometers
Petropavlovsk	2,785 kilometers
Anadyr'	4,640 kilometers
Mouth of the Kolyma	5,200 kilometers

(Next table on following pages)

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/205/ B. SPECIAL SECTION

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/207/ THE PROVINCES

General Division

133 As the general survey has already shown, the geographical conditions of even a large division of the entire region fall into 1

1 [Ct. cat. 133, p. 232 for continuation — Analyst]

/203/ Dates on the Freezing Over and the Opening Up of the Sea on the coasts

	Final Establishment of the Ice		Final Becoming free of Ice		Mean number of Days with Ice*
	Earliest	Latest	Earliest	Latest	
I. Sea of Japan and the Gulf of Tatar Bay of Peter the Great					
At Cape Gamova	19 Jan.	18 Feb.	3 Mar.	29 Mar.	72
At Askol'd Island	19Dec.	3 Feb.	26 Feb.	24 Mar.	59
Golden Horn	10 Dec.	30 Dec.	15 Mar.	24 Mar.	90
Amur Bay	18 Nov.	30 Dec.	11 Apr.	28 Apr.	130
Ussuri Bay	27 Dec.	15 Jan.	14 Mar.	30 Apr.	85
Sea at Cape Povorotnyy	1 Feb.	4 Feb.	26 Feb.	14 Mar.	--
Ol'ga Bay	17 Dec.	4 Jan.	27 Mar.	12 Apr.	100
De Castri Bay	16 Nov.	15 Dec.	25 Apr.	21 May	152
Gulf at Cape Pronge	24 Oct.	22 Nov.	30 Apr.	29 May	185
Amur at Nikolayevsk	30 Oct.	27 Nov.	10 May	25 May	184
II. Sea of Okhotsk					
St. Nikolaus Bay	5 Nov.	17 Dec.	27 May	25 July	190
Shantar Islands	10 Nov.	81 Dec. /sic/	25 May	20 July	174
Udskaya Bay	20 Nov.	18 Dec.	27 Apr.	10 July	178
Sea at Ayan	25 Nov.	22 Jan.	20 May	26 Feb. /sic/	164
Sea at Okhotsk	27 Nov.	26 Jan.	19 Mar.	18 May	117
Yamskaya Bay	12 Nov.	18 Dec.	21 May	28 June	185
Gizhiga Bay	27 Nov.	30 Dec.	25 May	2 June	136
Penzhina Bay	9 Nov.	12 Dec.	5 May	2 July	188
III. Bering Sea					
Avacha Bay	20 Nov.	7 Jan.	10 Mar.	9 May	115
Side bay of Avacha Bay	19 Nov.	16 Dec.	11 May	5 June	170
Ukinskaya Bay	14 Nov.	8 Jan.	15 Mar.	22 June	128
Korff Bay	15 Nov.	30 Dec.	18 Apr.	16 June	160
Olyutorskiy Bay	25 Nov.	30 Dec.	10 Apr.	10 June	149
Dezhnev Bay	8 Nov.	25 Dec.	29 Apr.	15 June	170
Anadyr' Gulf	12 Nov.	5 Dec.	29 Apr.	9 July	190
Holy Cross Bay	30 Oct.	18 Dec.	25 Apr.	18 July	195
Provideniya Bay and Emma Harbor	24 Oct.	26 Nov.	2 June	16 July	220

(table continued on following page)

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	Final Establishment of the Ice		Final Becoming free of Ice		Mean number of Days with Ice*
	Earliest	Latest	Earliest	Latest	
Cape Chaplin	27 Oct.	8 Nov.	20 June	15 July	240
Sea south of Markovskaya Bay	25 Oct.	28 Nov.	12 June	27 July	230

* The mean number of days with ice includes drift ice and established ice.

133 individual natural areas. In the following consideration these natural areas are again divided into individual provinces, with the relief serving as the principal basis for the division. Given the size of these individual provinces it is obvious that in addition to many common traits in a given province there are also differences in the individual parts of the province. Accordingly, a further subdivision could be carried out without difficulty. However, this has intentionally been forgone for reasons of clarity.

The varying treatment of the individual provinces and their parts is a consequence of the uneven knowledge of many parts of the land. In going through the Russian literature, one can again and again determine that in addition to well-known regions there still exist extensive areas which require exact investigation. In contrast to the individual research prevailing in the Czarist period, Soviet Russian science has gone over more to a systematic penetration. However, with the great size of the entire land, much still remains to be done.

Transbaykal is divided by the Yablonovyy Ridge into two provinces: according to Obruchev, these can be designated as the western or Baykal province and the eastern or Nerchinsk Daur province. Toward the north the individual mountain ridges come together to form extensive plateau areas. To this category belongs the Vitim Plateau, which is grouped as a unit with the mountain forest areas adjoining it to the north and equipped with an equally raw climate. The mountain country between Vitim and Olekma and the Olekminsk Stanovik contitute the transitional area to the actual Amur country. Here the Zeya and Bureya mountain country marks the border of the economically important Zeya-Bureya plain. Again accompanying the lower Amur is a depression, which flows together with the Amgun area. The Sikhote-Alin' and the Ussuri-Khanka depression constitute individual

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provinces of the Ussuri country. The division of the remaining regions follows of itself: the island of Sakhalin, the region of the Amgun and Uda, the Okhotsk coastal country, the provinces of the extreme northeast and of Kamchatka Peninsula (see map). A short survey of Lake Baykal precedes the description of the provinces.

/208/ Lake Baykal

Adjoining Transbaykal on the west is Lake Baykal, which belongs among the most interesting lakes in the world. It has a water surface of about 23,000 square kilometers, a length of 636 kilometers, and its greatest width is 79 kilometers. The smallest width, between the mouth of the Buguldeyka and the delta of the Selenga, is only 25 kilometers. The lake lies on the mean at 453 meters above sea level, but the lake floor sinks down 1,741 meters, thus reaching 1,288 meters below sea level and so making Baykal the lowest internal lake in the world. The mountains right on the shore rise more than 2,000 meters, and, as a result, there are height differences of more than 3,700 meters within a very small area. From this the tectonic formation of the lake can also be recognized. This occurred through the inroads of four grabens shoved approximately toward one another; of these grabens, the most southwesterly one runs in the Sayan direction and the others, on the other hand, run in the Baykal direction. This explains the long swung, arc-shaped form of the lake basin. In terms of time the formation of Lake Baykal was related to the graben breaks of Transbaykal and must have occurred after the middle Tertiary. The lake acquired its present form and shape in the time between Pliocene and Quarternary.

The temperature of the water is extraordinarily cool, and even in August, which brings relatively the highest temperatures, it never exceeds 9° to 10°. In the vicinity of the shore the surface water is somewhat warmer, and only in some bays, which are favorably located, does the water temperature rise to 15° to 19° at the highest. From a depth of 255 meters on the water temperature remains approximately constant at 3.5°. At a depth of 900 meters a temperature of 3.4° has been recorded, and at 1,600 meters one of 3° has been recorded. The frequent, very violent storms are primarily responsible for the coolness of the surface water. These storms again and again stir up the water, but, on the other hand, they also see to it that Lake Baykal freezes over only at the beginning of January. As a mean established

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133 over long years, Lake Baykal remains for 116 days under a solid ice
•132 covering, which can attain a thickness of up to 1.25 meters.

The fauna of the lake[1] is peculiar, representing a true collection
136 of endemic forms. Of the 1,000 types determined so far, around 75 percent are endemic. Here in the middle of the continent there is a type of seal called "nerpa" by the Russians (Phoca sibirica), which is related both to the same type found in the Arctic Ocean (Phoca hispida) and also to one found in the Caspian (Phoca caspia). The next fauna worthy of mention is the small, viviparous spider fish (Callionymus baicalensis), whose family (Comephoridae) is peculiar only to Lake Baykal. Exceedingly large is the number of mollusks. To date 85 types have been determined, of which two endemic families of brachiopods (Benedictiidae and Baicaliidae) are typical fresh water representatives. The great age of the Baykal fauna, which must have followed an isolated development, indicates the /209/ /Sketch Map of the Provinces://210/ appearance of the Baicalia mollusks already in the fresh water deposits of the lower Cretaceous in Transbaykal.

505 As a result of its depth and its favorable natural landing places, Lake Baykal offers the best opportunities for water transportation. A steamer line which is traveled regularly, connects all the larger settlements with one another and also serves the transportation of goods. Wood constitutes the bulk (40 percent) of the goods transported, in second place are stones and building material (30 percent), then follow fish, salt, flour, and others. The wood as a rule is floated down the rivers to the lake and then is transported by steamer tugs to the mouth of the Angara, where it is transferred to the railroad in Baykal station, which is equipped with mechanized loading equipment, or a small part of it is floated directly to Irkutsk. Wood is delivered on the Transbaykal side primarily by the river areas of the Barguzin and the Upper Angara.

228 Also of economic significance is fishing, which is pursued both in the open sea and also in the bays. The principal role in this fishing is played by the catching of a type salmon, the omul (Coregonus omul Pall. or Coregonus migratorius), and of fish related to the omul: these fish constitute 58 percent to the catch. In second place are types of carp (22 percent), which are caught primarily in the lagoons and in neighboring lakes. Also the catch of seals, already mentioned, is not insignificant. In 1948 there were 1,380 animals caught. Fishing is pursued both by the state and also by fishing kolkhoz. The latter caught 68 percent of the total catch in 1949, while the state was

[1] [i.e. Lake Baykal -- Analyst]

133 area of the Suyfun.

The Ussri comes from the southern part of the Sikhote-Alin' and arises from two source rivers: Daubikhe and Ulakhe. It flows first entirely in Russian territory, and, at the mouth of the Sungacha, which comes from Khanka Lake, it reaches the Manchurian border from where it then serves as the border river until it empties into the Amur. On the mean it is more than 420 meters wide in the lowland and flows languidly in a winding course with a mean velocity of only 1.5 kilometers per hour. The lower course of the Ussuri is often divided into several arms and becomes more than 1 kilometer /266/ wide. Numerous shallows hamper shipping, but the Ussuri is regularly traveled as far as Iman, where the steamer landing place is connected with the Ussuri Railroad by a railroad branch which is 1.5 kilometers long. Under favorable water conditions the Daubikhe is even traveled for a length of 100 kilometers as far as the locality of Lazarevo. However, the flow of water is generally very irregular, and also the summer high water changes greatly. Fluctuations in the water level occur, in which there is a difference of 10 meters between the extremes. Larger downpours of rain often cause the river to rise very rapidly, and thus unforeseen floods occur and cause much damage. The figures of Berg (27) show what great quantities of water can come

27. Berg, L. S. Landshaftno-geograficheskiie Sony SSSR /The Landscape-Geographical Zones of the USSR/, Part I. Moscow, 1931.

down in such violent downpours of rain as are usual during the summer monsoon. While in Voroshilov, the former Nikol'sk-Ussuriskiy, the normal mean rainfall for September is 105 millimeters, a single, mighty downpour of rain in one day brought the rainfall for that September to 115 millimeters. On August 9-10, 1927 in the same place 122 millimeters of rain fell within 22 hours during a cloudburst, which was connected with a typhoon-like storm. [132]

The Ussuri depression extends on both sides of the entire course of the river, and in the north the depression melts into the Amur plain. The Manchurian side appears in this respect to be disfavored in comparison with the Russian side. The Manchurian side lies lower, and its swampiness extends over a much greater area than that of the east side. But here, too, a zone, which is exposed to floods, which is very swampy, and which is little suited to agriculture extends along

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the Zeya and Bureya. Also the soil both in the Ussuri depression and also in the Khanka lowland is similar to that of the Amur prairies. Here, too, it is not black earth, as is still often reported; rather there is in the main muddy moor soil in the vicinity of the lake; this in turn is surrounded by a broad zone of semi-marshy meadow soil, and following then is weak podsol earth. The last two zones are cultivated almost everywhere, and the soil there can in every respect compare with black earth in terms of its yield. The zone of settlements, therefore, begins to the east and southeast of Khanka Lake but at some distance from the lake. If here, as in the Ussuri region, agriculture has to struggle with difficulties, the reason for this does not lie in the soil but rather in the climatic conditions, above all in the heavy summer rainfall. The winter is very cold and brings only a very thin covering of snow, and thus the ground freezes to great depths. Berg (27) states that at Voroshilov the ground freezes to a depth of up

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27. Berg, L. S., Landshaftno-geograficheskie Zony SSSR /The Landscape-Geographical Zones of the USSR/, (Moscow, 1931), Part I, 1. 372.

to 1.8 meters and at Grodekovo the frost even penetrates to depths of up to 2.4 meters. The planting of winter grain is, therefore, not advisable, nor is the planting of clover and lucerne advisable. The cultivation of winter crops is, therefore, always a risk. Further toward the south, in the Suyfun depression, winter rye is cultivated without danger. As a consequence of the deep penetration of the frost, the ground thaws out only late in the year. There is, however, no permafrost in the entire Ussuri region. The planting of summer wheat begins in mid-April to May, and the harvest begins in mid-August. Oats are sowed two weeks later, but are harvested at the same time as the wheat. The sowing of millet is done still later; the harvest, however, occurs only in the middle of September. The shortness of the time between the sowing and the maturity indicates the generally favorable conditions for the flourishing of the vegetation. The European types of grain suffer now under the dryness and under the strong winds during the sowing period, while during the summer they suffer from the great dampness, which makes fructification in the blooming period uncertain when it rains and which also endangers the maturing at harvest. All the better do the native cultivated plants /269/ flourish. With appropriate methods of cultivation European

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these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

133 appearance of a large mountain river. The high banks already here have good larch forests. In the area around the upper course of its left tributary, the Belaya, which comes from the Anadyr' Mountain Range in the north, there are supposed to be, on the other hand, only poplar forests and no larches. Above Markovo, the principal locality in the interior of the region, the wide plain begins. At Markovo, more than 500 kilometers from its mouth, the river lies only 25 meters above sea level, and thus the drop from here on is very slight. The middle course of the river, therefore, extends over a width of up to 1.5 kilometers and includes numerous islands. The depression, especially the central parts on both sides of the river, traverse wide, lightly hilly, moss-covered swamp areas with numerous large and small lakes and river courses with water which scarcely flows. There are
[131] no forests at all in the depression. West of the Belaya and to the southwest of the basin, the swamp areas here and there still have bushes of alders, poplars, and willows, but toward the east this, too, disappears, and here the landscape picture appears monotonous and can be surveyed over a vast area. Also the spurs of the mountain range and the ridges are mostly flat and covered with a slimy moss covering. Often the mountains still have lakes and brightly iridescent swamp areas on their ridges.

131 To the north of the Anadyr' depression, as was already mentioned with the Belaya, only poplar forests occur in protected places. Larches are generally rare there. Only south of the depression do they also /293/ appear. In the west, on the other hand, i.e., more removed from the damp-cool influence of the sea, larch forests penetrate into the valley areas and onto the slopes much farther to the north. The transition from the depression to the mountains occurs in the same way almost everywhere. As a rule, poplars and willows, but rarely birches, set in first on the river courses, and, widening into a type of gallery forest, these trees accompany the river even into the mountain range. For this the trees take up the valley bottom, while the slopes are already traversed by coniferous forests. The slopes exposed to the winds and the higher ridges, however, are without forests.

• 132 The fact that the Anadyr' depression opens onto the sea permits the influence of the sea to penetrate far into the land. In the west temperatures of -50° are no rarity, while that degree of coldness appears only as an exception in the east. In summer, on the other hand, the coast is cool and rainy, while in the west there are very warm days. The cool fog which envelopes the coast in summer almost never penetrates into the land, however.

133 andesite type (172). Not far from the last volcano mentioned, the

172. Savritskii, A.N. Piat' let geologicheskikh isledovanii Kamchatki /Five Years of Geological Research in Kamchatka/. Problems of Soviet Geology, 1935.

mighty but quiet Koryatskaya Sopka rises to a height of 3,457 meters, and next to it is the Sopka Zhupanova (2,929 meters). South of Avacha Bay the mountain range has many valleys because of the rivers streaming off radially in all directions; but down to the southern tip of the peninsula smaller extinguished and active volcanos lie on the mountain range. The height of the mountains here rarely exceeds 900 meters. The last group of volcano mountains, with the Ilinskaya (855 meters) and the Kambal'naya Sopka (1,615 meters), rises over an extensive region of mountains, which are gently inclined and like ruins, in the extreme south around Kuril'skoye Lake, which is 306 meters deep and which represents an old crater.

312 Related to the phenomenon of volcanos is Kamchatka's wealth of warm mineral springs. Of these the Nalychevkiye springs between Avacha Bay and the Sopka Zhupanova are worthy of note. These springs come from an andesite layer with a temperature of 72°, and they contain a great deal of borium and arsenic, which is deposited in terraces. Interesting pictures develop in the winter when the steam rains down in the environs and forms fantastic ice figures.

133 The east coast, in contrast to the west coast, is richly divided up by inroads. The projecting peninsulas mostly end with a steep, rocky descent to the sea. The bays, on the other hand, have a broad, flat, treeless strip, which has its greatest size at Litke Bay. Avacha Bay, too, on which Petropavlovsk lies, is surrounded by a coastal plain, which, however, is narrower here.

[30] Enclosed by the high lines of mountain ranges, which protect it from the damp, cold, foggy, snowy, and rainy climate of the coastal sides, the central Kamchatka valley is distinguished by a more continental /298/ climate, which, dispite the harsh winter, is found more pleasant by man than the constantly damp coolness of the coast. The river valley itself is swampy but it is accompanied by a grass steppe, occupied by a spotty stock of birches. This grass steppe offers good conditions for breeding livestock and is not unfavorable even for agriculture. After the break-through to the east the Kamchatka River ends in a wide, treeless delta, which has a special economic significance because of

with islands.

361 The main locality on the west coast is Bol'sheretsk. It is the
228 center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

tumble down and form true "rock seas" at the foot of the mountains. The river valleys are deeply etched in the mountain massif and extend from the highest elevations radially to the sea. Often they end in bays, which are filled with deposits and thus afford favorable opportunities for man to go onto the land. In many cases, on their way to the sea these rivers have dug deep, narrow gorges in the volcanic stone; but often because of the elevation, the rivers have not had time to sink down to the level of the sea. Thus they tumble into the sea as a waterfall at the steep break on the coast.

The climate of the Kurils is raw and brings a cold, long, and relatively dry winter and a cool, damp summer. The climate stands completely under the influence of the monsoonal circulation of air. In winter northwestern winds prevail (70 percent); they have great strength (the monthly /307/ mean velocity of the wind is 14 meters per second) and there is slight relative humidity of the air (60 percent). In summer southern and southeastern winds prevail, but they generally are weaker than in the winter and are often interrupted by calms. The relative humidity of these winds reaches 90 percent. At the end of the summer and in the beginning of the fall very heavy winds, which can attain a velocity of up to 74 kilometers per hour, appear as spurs of southern typhoons. The fluctuations in temperature are not very great (21° to 23°), the mean temperature in the coldest month lies between -5° and -7°, and the mean temperature of the warmest month lies between 14° and 17°. The number of frost-free days is 120 in the north and increases to 180 days in the south. The rainfall ranges from 750 millimeters to 1,000 millimeters, and in the course of the year it has its maximum in August/September and its minimum in January/February. Only approximately a third of the days are without rainfall. Snow begins to fall already at the end of October and lasts on the northern islands until the beginning of May. The snow covering reaches a thickness of 100 centimeters. The cloudiness is very heavy. On many islands only 15 to 30 clear days have been observed in a year. The most beautiful season is the fall, which has the most still and rain-free days. Characteristic phenomena of the Kurils are the numerous thick fogs, which appear primarily in the summer and arise when warm-damp air masses from the Pacific move over the cold Oyashio /Okhotsk Current/. The fogs, as a rule, do not have great thickness, and thus the peaks of the mountains often lie in the sunshine, while all the rest of the island is enveloped in thick fog. The fogs are an extraordinary hindrance to shipping and bring many dangers. From

132 December to the end of April shipping must be stopped completely as a consequence of the ice covering in the area of the islands. Even the most southerly island, Shikotan, is cut off from all traffic with the outside world during this period.

137 Because of the great stretch of the islands from north to south, vegetation on the Kurils has developed very differently. Of the 768 types of flora established to date on the Kurils, 257 have the base of their development in Japan, and only 45 have the base of their development in Kamchatka and the adjoining mainland. On the northern island tundra vegetation predominates with widely diffused bush covering of Pinus pumila, willow bushes and birch bushes. Trees can develop only in some few protected places. The central islands have the poorest vegetation: these islands mostly are also small and of lesser height, and thus the rawness of the cool sea current can have the strongest effect on them. The southern islands have a relatively rich vegetation. Here (Uruppu, Etorofu, Kunashiri, Shikotan) there already appear forests which are rich in wood and have trees with long trunks. In these forests firs (Picea jezoensis, Picea glehni) and the Sakhalin spruce (Abies sachalinensis) predominate. Mixed in with these trees are oaks (Quercus grosseserrata, Quercus /308/ dentata), beeches (Carpinus cordata), and other deciduous trees. In higher places and in the vicinity of the coast there appear meadow-like grass areas, which occasionally lend an Alpine note to the landscape picture.

136 Land animals are slight in terms of the number of types. The brown bear and the wolf are in relation to the distribution of the forests. Very numerous are foxes of all types.

The bird world is extraordinarily rich. In this respect the smaller islands above all are distinguished. Migratory birds are rare. They prefer the Sakhalin route for their wanderings. The real wealth of the Kurils are the fish and aquatic mammals, which undoubtedly are poor in terms of the number of types represented but appear in unusual quantities. Among the fish the same types of salmon should be named as were mentioned in the discussion of Kamchatka. Seals stand in first place among the sea mammals, but sea lions and whales also occur. The valuable sea otter has been almost completely exterminated.

161 The number of permanent inhabitants of the Kurils was around 13,000 before World War II; in the main they were Japanese. Kuril Ainu--the original inhabitants--numbered only several hundred. The

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484 conduct against the explorers recognized by the authorities, and he found support from the new Russian governor for East Siberia, Muraviev, who later was made a count and received the honorary name of Amurskii. Muraviev got him command of a small ship, with which Nevelskii headed for the Far East from Kronstadt and in 1849 began his explorations, even before he had received permission to do so. He determined that the connection to the north between the sea and the Amur Gulf could be traversed at all times by ocean-going vessels with a depth of up to 4 meters, and that Sakhalin was an island, and that accordingly during the warm seasons ocean-going vessels with a depth of up to 5.50 meters could get unhampered to the mouth of the Amur from the Sea of Japan through Tatarskiy Proliv /sound/. This news caused a sensation in Petersburg and awakened anew the greatest interest in the Far East both among the state leaders and among the public. In the meantime explorers such as Middendorff, among others, and later also Nevelskii himself reported that the area east of the Lesser Khingan and of the Ussuri had, for all practical purposes, never been brought under Chinese administration and that it was, therefore, in fact free. Thereupon Muraviev took possession of this area and also the Amur country. All of these events are reported in detail, but from the Chinese point of view, by Aitchen K. Wu in his work appearing in 1950, "China and the Soviet Union" (231).

231. Aitchen, K. Wu. China and the Soviet Union (London, 1950).

[488] In 1858 Russia and China signed the Treaty of Aigun, in which the Amur country was declared to be a Russian possession, while the Ussuri country was to be administered jointly by the two countries. But in 1860 in a treaty with Peking Russia also received the Ussuri country and was promised the Island of Sakhalin. With this, all regions which today belong to /27/ the Soviet Union came under Russian administration. In 1860 Vladivostok was founded, in whose name the imperative of Russia's Far Eastern policy was expressed: "Rule the East!"

General Survey

•133 Transbaykal, like the other border areas in the Far East, belongs to the east Siberian mountain country. In contrast to the other

parts, Transbaykal has a generally regular shape. Numerous mountain 133
ridges traverse it in strikingly parallel strips from southwest to northeast. Extended mountain ridges and almost equally long valley depressions constitute the distinguishing features here, while the contrast between mountains extending irregularly and lowlands lying in between is characteristic of the Amur and Ussuri areas and also of the extreme northeast.

Transbaykal, lying between heavily forested, damp Siberia 133
and the dry steppe belt of upper Asia, forms a transition area in terms 137
of its landscape. The Mongolian steppes, which in strips are semi-wastelands, cross the border from the south and in long tongues stretch into the broad valley plains between the mountain ridges. In this fashion the steppes reach even Lake Baykal and form islands in the middle of the wooded area, for example on the Barguzin River and in the valley of the Upper Angara. On the other side the Siberian taiga presses in on mountain ridges far toward the south to the area around the upper course of the Onon and the Ingoda. Thus the Central Asiatic steppe and the north Asiatic continental forest penetrate into Transbaykal. There comes into being a magnificent forest steppe landscape. In the south the steppe predominates, but the farther north one goes the more the forest descends the slopes from the rounded-off mountain ridges until finally the forest fills the ever narrowing valleys. The steppe valleys gradually become grassy meadows, which finally turn into swampy valley meadows and even into swamp forest in the north.

The ground relief in Transbaykal, however, is not so varied 133
as would appear from first glance at the map. The valley plains lie generally 600 to 900 meters above sea level, and the ridges of the mountain chains are between 1,000 and 1,400 meters high, so that accordingly there is only a relatively slight difference in height. And even this is blurred by the fact that the slopes are contiguous and rise only very slowly and gradually. As a rule they show no strongly marked ridge but more often have a long, rounded ridge, indeed often in the form of a plateau. In this the predominant forest covering contributes to leveling the unevenness of the relief. Individual mountains, in their considerable absolute heights, extend beyond the tree line. Mostly there are roots, which have withstood the storms and which with their naked round forms project like bare skulls above the general /28/ thicket of trees. The appearance has brought to them the appropriate Russian name of "gol'tsy" (singular

133 "golets"), which means the same as "baldy" or "bald-head." These goltsy, which appear in Transbaykal only in individual instances, are extremely typical for all mountain areas in the Far Eastern region.

101 311 Culturally, too, Transbaykal has to a remarkable degree a transitional character. The steppe regions, the steppe valleys, and the steppe islands have since time immemorial been the seat of nomadic cattle-breeders, in this case the Buryat, an intelligent and energetic tribe of Mongols, who have kept themselves on the steppes which suit their nature and culture. It is interesting to determine how exactly their expansion even today coincides with their natural landscape. The Buryat penetrate only rarely into the forest areas; more often they leave these to the forest peoples of the Tungus, who even today live there still as hunters and reindeer breeders. The Buryat were the first people to give successful resistance for a time to the invading Cossacks, but as nomads they later had to clear the field for the Russians who were seeping in slowly and pursuing agriculture. Buryat helped themselves, however, by adjusting: they often went over to agriculture themselves, and they appropriated for themselves the advantages of Russian culture. Thus, even though they were penetrated by Russians, they were able to retain their original regions and to attain a cultural level which raised them above all their Mongolian tribal brothers on the other side of the Soviet Russian border. Because of the invasion by the Russians, there came into existence here a cultivated landscape which was inserted between the completely forested areas in the north and the pure steppes in the south; but corresponding to the spacious transition region, this cultivated landscape did not appear in a closed-off zone, but in culture islands. In extensive regions in the south near the border, the Buryat even today still lead their old nomadic, cattle-breeding life.

132 The fact that the bulk of the rainfall occurs in the summer is favorable for agriculture. Chita, lying in the middle of the land, has an annual rainfall of only 319 millimeters. However, 289 millimeters of this falls during the vegetation period so that a relatively sufficient [243] amount of dampness is available, in conjunction with continental warmth, to make possible a very high yield of summer wheat. This makes Transbaykal an important wheat producer and the principal supplier for all of east Siberia.

133 The Amur country is adjacent to Transbaykal, without a clear border, north of the northern arc of the Amur. In its large morphological traits it is no less varied than Transbaykal, though the differences in

height are greater; for in the Amur country the bottoms of the valleys sink to between 500 and 200 meters, while the mountain ridges still retain heights between 1,000 and 1,500 meters. The number of mountain ridges, which retain their rounded-off, plateau-like character with numerous "gol'tsy" /29/ set on them, decreases. Likewise there disappears the parallel lining up of the main chains in a northeastern direction, a trait which is so marked in Transbaykal. The main mountain chains in the Amur country, on the contrary, run predominantly from west to east, while others cross them almost at right angles. Thus, in contrast to Transbaykal, the geological features have greater dimensions here, where broad plains are inserted between the individual mountain chains, and toward the Amur these plains assume the character of low plains. The thickly settled Zeya-Bureya Plain should be mentioned first. But here too the corresponding traits appear which--apart from the mountains--are expressed in the main direction of the rivers and their valleys. A southwest-northeast direction (like Lake Baykal), such as occurs in the course of the Argun, the Selemdzha, the Bureya, and the lower course of the Amur, crosses a northwest-southeast direction, which appears most clearly in the middle course of the Amur and in the direction of the Gilyuy. Many rivers, such as the Zeya, follow first one direction and then the other. 133 •

The difference in the landscape from Transbaykal is great since the Pacific Ocean has a powerful effect on the Amur country which lies in the sphere of the east Asiatic monsoon. The nearness of the great continental mass, to be sure, brings harsh winters; but the summer is warm and brings at the same time heavier rainfall than in Transbaykal. Generally the annual rainfall is more than 500 millimeters, of which usually more than half falls in the three summer months of June, July, and August alone and brings forth a most luxurious plant growth. While in Transbaykal the valley areas remain free of tree growth because of the dryness, here there is excessive dampness, which makes it impossible for forests to thrive in the valleys, meadows and level areas. This excess of summer rain gives the landscape its special stamp. Swampy reed thickets along the rivers, broad meadowlands covered with high grass and lying on the higher plains, giving way to little woods on the dry hills, and on the slopes and ridges of the high mountain chains forest thickets often difficult to penetrate and, in contrast to the Siberian taiga, containing oaks and deciduous trees--these are typical of the entire Amur country. 132 137

The excess of dampness in vegetation season is a handicap 000

311 The excess of dampness in vegetation season is a handicap even for agriculture and makes difficult the extension of the cultivated areas. New land for cultivation must as a rule be won laboriously from nature by drying it out. More and more the extended Zeya-Bureya Plain and the area along the Amur have become quite thickly settled, and large parts of the famous "Amur [162] Prairie" have been transformed into cultivated land. It is predominantly Russians who live here. The Chinese who immigrated here earlier have been pushed back over the Amur--in part by force. In all the rest of the area, however, /30/ untamed nature dominates the landscape, which is traversed at most by a few Tungus or Russian 316 hunters. A wealth of gold has lured numerous Russians into this wasteland, too, especially in the area around the upper courses of the left tributaries of the Amur. A locally very active gold industry has come into existence, which today is organized by the state and which has drawn even this distant region into the economy.

● 133 The Ussuri country is divided into two completely different parts: the huge mountain mass of the Sikhote-Alin', which fills the entire area from the Bay of Peter the Great in the south to the mouth of the Amur in the north; and the Ussuri-Khanka lowlands, which extend west of the Sikhote-Alin' in the same direction and continue south of the Khanka Lake without marked interruption as far as the Bay of Peter the Great.

The Sikhote-Alin' is a forest-covered, strongly valleyed /zertaltes/ mountain mass, which is divided into several ridges running parallel to the coast. The shapes of the mountains are soft without especially marked edges and projections. More often plateau-like shapes predominate here, too. The heights in general lie between 650 and 850 meters; the valleys, however, are deeply carved out. Rising slowly from the west, the mountain mass descends steeply to the sea and only rarely leaves free a narrow coastal indentation plain on which there arises small, poverty-stricken fishing villages. The nearness of the sea crossed by a cold stream causes a cool, foggy, rainy, unfriendly summer, thus producing similar conditions to those found on the entire coast extending to the north beyond Okhotsk. Swampy valleys and forests dripping with a cool dampness and with a more northern stamp are typical marks of this area.

132 The western side of the Sikhote-Alin' and the Ussuri-Khanka lowlands, on the other hand, correspond more to the Amur 137 country. Warm to hot summers joined with high rainfall and a

strong inclination to marshiness are distinguishing marks for this area. 132, 137
The Sikhote-Alin' stretching parallel to the coast keeps back the coolness and also the fog from the sea and allows the sun to have a stronger effect. Everywhere the more southerly position makes itself apparent. In the forests of Sikhote-Alin' deciduous trees appear more and more in the foreground, increasing toward the south, until finally, in magnificent specimens, they form the sole type of tree.
n the cultivated zone, too, which stretches along the entire lowlands, 311
typically Manchurian-Chinese plants become noticeable in increasing [241]
measure toward the south. Kaoliang and other millet, soya beans, and rice appear noticeably on the scene. There is a change in the 162
population, too. In the northern part of the lowlands, as far as Khanka Lake, Russians and Ukranians predominate; in the extreme south, Chinese and Koreans are in the majority. The Ussuri-Khanka lowland is relatively thickly settled, the Sikhote-Alin' itself, on the [316]
contrary, is in large areas as good as uninhabited, except for some mining areas in the south, where /31/ coal primarily is mined. Native Tungus traverse the Sikhote-Alin' in smaller numbers than in the old days, and in addition there are Russian hunters and Chinese collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional 131
direction. The southern part is traversed by two parallel mountain ridges, which are separated from one another by a relatively wide depression. The eastern mountain chain is shorter but higher, and its peak of 2,013 meters is the highest elevation on the island. Toward the north the mountain ridges flatten out and give way to a hilly plain. The cool, foggy air masses blow unhampered over the land here, while in the south a difference in climate is caused by the mountain chains. The eastern slopes are cool, rainy and unfriendly, while the western side appears somewhat milder. The southern parts of the island, which were Japanese from 1905 to 1945 and only now have again become Russian , are generally more favorable. In terms of its landscape, Sakhalin can be designated a damp, cool, forested mountain country, but in numerous places treeless moss steppes appear, which recall the tundras of the north. Once feared as a Russian prisoners' colony, Sakhalin is advancing economically more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encom- 133
passes, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina Bay in the extreme northeast. In the western part, which stretches

133 from the Uda Bay approximately to the harbor of Okhotsk, the mountainous rampart of the Dzhugdzhur runs parallel to the coast, to which the mountain descends steeply and abruptly. Only seldom does a narrow coastal margin offer an opportunity for establishing a fishing settlement. The way from the coast into the interior of the land is extremely difficult, for only narrow river valleys, etched out like ravines, are available for this: these rivers hasten over their short course into the sea from the ridges of the mountain rampart. For this reason Ayan, the sole harbor on this coast, can't develop. Only near Okhotsk does the foreland broaden into a coastal plain and offer easier routes into the interior of the land. The eastern part of the coastal region from Okhotsk to Penzhina Bay is, on the other hand, very much broken up and has numerous peninsulas and off-shore islands. Here the spurs of various mountains run into the coast almost at right angles, and in between extended, gently rising valley areas extend into the interior. The manifoldness of the formations is increased more by a mountain chain which, running parallel to the coast, appears only in the peninsulas. In terms of its landscape the coastal area presents the same face everywhere. Thick forests cover the slopes and fill the deeply cut-out valleys of the numerous rivers and brooks, most of which are short and which flow into the sea. On the higher tops and mountain ramparts, however, tree growth can no longer develop. Crippled shrubs or /32/ more often moss blankets cover these areas, while the highest projections, like bare gol'tsy, extend beyond the vegetation line.

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From the northeastern end of Penzhina Bay a broad lowland extends to the northeast into the interior of the land and continues into the Anadyr' lowland, interrupted only by a narrow watershed-crossbar, which is at most 500 meters high. The Anadyr' lowland opens to the east on the Bering Sea. Both the Penzhina and also the Anadyr' lowlands are very much broken up by numerous mountain and hill ridges projecting into the lowlands. In terms of landscape they both have the same stamp. In the higher areas between rivers broad moss tundras cover the land. However, large poplar forests extend to the rivers, and these forests turn into fir-pine forests in the mountainous border areas beyond the upper courses of the rivers. In general one can consider the landscape to be a wooded tundra.

133 In the north the Anadyr' area is adjacent to the Chukchi Peninsula. Although the peninsula's coasts are very well explored, its interior is still fairly unknown. Two rubble-covered mountain

chains traverse it from west to east, and these mountain chains with their spurs in part reach the coast, where they break off sharply. But this area also does not lack plains, for plains extend from the coast into the land on both sides of the rivers. 133 •

All these areas* are either very little settled or are completely uninhabited. Of the Russian coastal settlements only Okhotsk and Magadan as harbors have a certain importance. Worthy of note is the reindeer breeding of the Chukchee on the peninsula named after them. 311

South of the Anadyr' lowland rises the Koryak Range, which fills the entire area as far as Korff Bay. Some mountain ridges, only a little separated from one another, traverse the land in a wide arc from the southern end of the Anadyr' Bay in the direction of the Kamchatka Mountains. Only near the coast have the rivers dug out deep valleys; here forest growth appears, while the high areas and the ridges are covered by pure tundra. 133 [137]

The coast of the Bering Sea has numerous native and Russian fishing settlements; the hinterland, on the other hand, is occupied only by small Paleoasiatic remnant peoples, who pursue reindeer breeding. [361]

Kamchatka Peninsula is one of the most interesting regions in the Soviet Russian Far East. The relief, which just like Sakhalin gets its main characteristics from two mountain ridges, is extraordinarily varied, for numerous young volcanos are set on the mountain ridges, and a number of these volcanos are still active. The Klyuchevskaya Sopka, the highest volcano on the peninsula, rises from the valley of the Kamchatka River to a height of 4,775 meters and makes an imposing picture with its ice-capped peak. Because of the abundant rainfall and the mild climate, the plant covering of the peninsula is very luxurious. On the outer mountain slopes deciduous forests predominate, only /33/ in the interior of the peninsula do fir-pine forests appear. The only exception on a larger scale is the west coast, on which tundra-like moss steppes have developed. In addition to numerous Russians who occupy primarily the coastal fishing villages, the Paleoasiatic Koryak and Kamchadal have remained in the interior. 137 162 361

The volcano belt of Kamchatka continues toward the south in the island chain of the Kurils, which after World War II went to the Soviet Union along with the southern half of Sakhalin Island. 133

* [i.e. the Okhotsk coastal area and the Anadyr' area -- Analyst]

Geological Structure and Morphological Formation

•133 The geological history of the entire Far Eastern region is determined by the "Old Siberian Mass." The Angara country forms the core of this shield which was already rigid in the earth's early history. Around this old, early stiffened mass, resisting all orogenic movement, the earth's crust laid itself in broad fault zones, which, although with interruptions, belong to more recent periods the more distant they are from the old mass. Accordingly we see the most recent Tertiary mountain formations appearing only on the extreme rim on Sakhalin and Kamchatka. These folds have a second result of extreme importance for the morphology of the entire area: every younger orogeny, through its powerful tectonic pressure, destroys the older, already non-active fault and stiffened zone and leads to the formation of breaks and vertical displacements, and indeed often to over-extensions /Überschiebungen/ on the edges. Since in this regard every new fault exerts its effect internally toward the old mass, the result is that the degree of disturbance and breaking up of the old mountains into individuals masses, clods or horsts decreases toward the outside, and accordingly fault mountains have preserved themselves the best in the outer border zone. If individual details are overlooked, these large traits of geological structure appear throughout the land.

Transbaykal for the most part belongs to the oldest part of the continent, the "Old Summit of Asia," as Suess named it. Already in Pre-Cambrian times a mountain arose here with narrow, steep faults, which in the area discussed ran from southwest to northeast, i.e., in the direction which Lake Baykal runs. Strong wearing away lowered this mountain into a mountain root /Gebirgsrumpf/, almost a plain, which then later was broken up into individual parts by disjunctive movements, especially by breaks. The horst and graben formations produced thereby are of striking importance for the morphology and hydrography of the land. The mountain ridges which we encounter today in Transbaykal, are nothing but standing or elevated horsts, i.e., remainders of Pre-Cambrian mountain roots. In this the shield movements, which were repeated in several phases until Post-/34/ Tertiary times, have kept constant the strips in the line of Lake Baykal which have been predominant since Pre-Cambrian times. Marked by the old fault mountains, all tectonic lines extend from southwest to northeast. From this results long horsts and grabens, which can often be followed through all Transbaykal. Only seldom are they

crossed by diagonal depressions and slight diagonal sills. Lake Baykal belongs to the most recent breaking-in of the region. It is certain that it already existed in the Miocene period, although its final formation took place only in the late Tertiary era through the elevation of its surroundings. Its basin consists of four grabens, of which three extend in the same direction as Lake Baykal, while the most southern one follows the course of the Sayan. The Sayan Range, which is faulted onto the southwestern border of the Angara Mass, shows in its oldest structure a construction similar to the old Baykal Mountains, but it is somewhat younger. It stretches from northwest to southeast and thus runs into the Lake Baykal direction almost at right angles. This direction of strips is generally designated as the Sayan direction. Only the spurs of the Sayan extend into Transbaykal. It is still not clear whether the Sayan direction bends here into the Baykal direction or whether the two, coming together here, run out toward the south. 133

In the horsts of Transbaykal there appear everywhere on the surface bare deep stones /Tiefengesteine/ of the primitive mountains, especially granite, syenite, gabbro, and in addition to these there are metamorphic rocks of Pre-Cambrian times, especially gneiss, crystalline slates, marble, and quarzite. These stones determine the predominantly soft morphological forms of the flat ridges, from which here and there individual cores project from the rounded tops. Where, however, effusion /Erguss/ stones, especially porphyry and porphyrite, have participated in the formation of the surface forms, the formation is more lively and more varied. The 2,508 meter high Sokhondo in the area around the source of the Ingoda is from porphyry and its tufa and downright Alpine mountain forms full of valleys. Basalt extends over a larger area only in individual grabens, i.e., on the upper Vitim, in the Tugnuy trough, between the Tsagan-Daban and the Saganskii Mountains and in the Khilok graben. In general basalt effusions resulted. Only on the upper course of the Vitim do the eruptions in the Obruchev, Mushketov, and Lopatin volcanos have outspoken crater forms, which project from the surroundings, however, only about 100 to 160 meters.

Toward the northeast the internal horst region of Transbaykal turns gradually into highland-shaped formations. On the Vitim Plateau, the first representative of this region, whose high plain-like character is strengthened by the basalt covering laid over it, additional mountain ridges with similar surface forms are adjoined. In general the Transbaykal character is preserved. Here, too, Pre-Cambrian

• 133 rocks form the base of the extended horsts. Wide grabens, however, are lacking. As a consequence, the results of the /35/ forces of water, ice, and wearing away by frost, forces whose shaping effects have occurred more recently, can be observed much more clearly. Typical are the deeply-etched valleys, which follow the break-lines but often likewise go their own way. Also the strips going in the Lake Baykal direction can be followed everywhere in spite of the high plain character. In the Patom Plateau, however, north of the lower course of the Vitim, this clear unequivocalness disappears. Probably the basic mass of the plateau consists overwhelmingly of metamorphic stone series of Pre-Cambrian times, and the main fault is Pre-Cambrian, but the lines stretching in the direction of Lake Baykal are lost here. In a sharp curve, convex toward the north, the fault turns to the east and east-southeast. The damming-up effect of the archaic Aldan mass makes itself noticeable; the Aldan mass like the Angara country, belongs to the core of the Siberian primeval shield. The faults extend along the southwest and southern border of the Aldan mass until they experience a strong demolition east of the Olekma in the zone of the Stanovoy Range.

The horsts of the high plain region mostly project more markedly than in the actual Transbaykal area. Generally they are between 1, 000 and 1, 500 meters high, and projecting above them up to more than 2, 300 meters are numerous mountain cores consisting predominantly of intrusive stones. Of economic importance is the fact that the old Proterozoic masses conceal numerous ore deposits. The richest gold mines in the USSR lie in the area of the Vitim and the Patom. Besides the gold-quartz veins still existing, gold is found in the permafrost diluvia metals and sands of the river valleys, however, mostly secondarily.

The system of the Stanovoy Range begins east of the Olekma and north of the mouth of its tributary the Nyukzha. This mountain range forms the southern Proterozoic border of the Aldan mass and because of the resistance of the latter, this mountain range forms the continuation of the Transbaykal root plain, bending somewhat toward the south. Stretching out in many places are the old faults which form the trunk, but these faults extend from southeast to northwest so that the tectonic and orographic stretches /Streichen/ do not always coincide. A similar stretch of Pre-Cambrian faults from southeast to northwest can also be seen in the area around the upper course of the Olekma in the north of the large Amur arc. Also the trough points

to tectonic tendencies in the same direction, as does the course of the middle Vitim. The coming into being of the Stanovoy Mountains was therefore completed in part independently of the direction of the old faults and goes back to later breaks with horst and graben formations; in this the abutment of the Aldan mass became decisive for the present orographic stretches /Streichen/ of the system, which extends from west to east in an arc which is slightly convex toward the south. In connection with the breaks there has also been the thrusts of eruption stones which extend especially on the northern border and which have caused steep mountain forms to come into being locally. The real ridges have a high plain character and generally lie 1, 200 meters above sea level. The highest point, north of the /36/ source of the Zeya, attains a height of 2, 482 meters. Typical of a large part of the Stanovoy Range is a sloping to the south in gentle steps.

The Stanovoy Mountains extend to the east as far as the Maya, a tributary of the Uda. To the east they adjoin the Dzhugdzhur Mountains, which extend to the northeast as far as the Okhota River on the coast of the Sea of Okhotsk. They are the main chain of three parallel mountain chains, and consist primarily of gneiss, granite, and porphyry. But they also have slate and limestone folded in, whose fauna belong to the upper Devonian era. This brings with it the variegated /variscische/ formation of the Dzhugdzhur, which undoubtedly is adjoined in the west to the older zones, which form the eastern border of the Aldan massif.

Mesozoic fault zones, extending to the Sea of Japan, adjoin on the south and southeast the block of the Pre-Cambrian faulted area in Transbaykal and of the Stanovoy, a block which seems to be a single unit. In individual regions these zones are unevenly developed and are also preserved unequally. Because of the fact that knowledge of this land is still slight, many tectonic movements still can't be ordered in time or limited, and only a general, over-all description can be given.

Following the Pre-Cambrian region is a broad zone of Caledonic and variegated /variscische/ faults, which extend from Mongolia to the Sea of Okhotsk and follow the strip direction of the older zone. The eastern parts, including the middle Amur region, into which the Triassic and Jurassic Sea was able to penetrate, belong to the Cimmerian Orogeny, which probably can be regarded as the most powerful in the Far Eastern region. It penetrates far into the interior and overpowers

•133 the preceding older formations more or less strongly, dismembering them into clods /maybe: shields/ and causing rises and depressions. Toward the outside the Cimmerian zone is displaced by the Tertiary, alpidic orogeny. Sakhalin, Kamchata, and the Koryak Mountain Range, which is surrounded by the Penzhina-Anadyr' depression, are considered as belonging to this orogeny. On the continent in the Amur area the Tertiary events produced bends and clod movements.

In the southeastern part of Transbaykal the horst character predominates as it does in the rest of Transbaykal, but the typical graben formation recedes, and the individual mountain ridges are mostly formed by simple dislocations. The stronger tectonic processing of this region goes back to the Mesozoic orogeny which already appears here. The Cimmerian mountain formation dominates incontrovertibly in the Shilka Hills northeast of Nerchinsk. Also further to the south in the Nerchinsk Mountain Range north and east of the Borzya railroad station, there are pre-Jurassic and post-Jurassic faults with northeastern lines, and on the upper course of the Ingoda old northwestern faults appear, which lie under a more recent fault following the line of Lake Baykal. The border of the old Lake Baykal root plain, which was no longer incorporated by the Mesozoic /37/ orogeny, must be sought west of the Nerchinsk-Borzya line.

The Yablonovyy Ridge, which in its entire course belongs to the Pre-Cambrian horst region, extends south of the upper course of the Vitim and its tributary the Kalakan in a northeasterly direction almost as far as the Olekma. North of the end of this ridge individual mountain tops in the Kalar Mountain Range reach considerable heights (Golets Skalistyy 2, 800 meters; Golets Snezhnyy 2, 515 meters). These regions, to which the Olekminsk Stanovik in the area around the upper Olekma also belongs, are still incompletely explored. Brief mention can be made of this latter area.

The Stanovoy Range declines toward the south into the upper Zeya Plain, which continues toward the west in the Gilyuy Valley at the foot of this mountain range. This valley is a large graben depression, which is filled with gold-bearing river beds. Its center is 329 meters deep. On the south the depression is closed off by a long mountain chain, which runs from west to east analagous to the Stanovoy. This is the Tukuringra-Dzhagdy Mountain Range. The Yankan Ridge acts as the connecting link to the west with the Olekminsk Stanovik. The entire mountain chain consists primarily of gneiss, granite and crystalline slates. However, it has been con-

firmed that Paleozoic elements are included in the fault, and accordingly the Pre-Cambrian age assumed earlier probably does not apply to the entire chain. Local break lines traverse the mountain mass and follow it especially at the southern foot. The wave-like upper surface is heavily eroded, and projecting beyond it to heights up to 1, 600 meters are numerous tops of mountain cores. The height of the central pass is between 900 and 1, 000 meters. The Tukuringra Mountain Range is bored through on the south by the Zeya River, the sole drain from the closed-off graben depression, which is named after it /i. e. Zeya/. Terrace formations point to more recent vertical movements. From the River Dep, a left tributary of the lower Zeya, the mountain chain bears the name Dzhagdy Mountain Range. It is connected with the Stanovoy by a broad, high ridge, which cuts off the upper Zeya Plain on the east; generally in the Dzhagdy Mountains the two main strip directions to the northwest and the northeast are manifest and cause the winding course of this mountain range. Its ridge forms the watershed between the Uda, flowing into the Sea of Okhotsk and the Selemdzha belonging to the river area of the Zeya. The region of the source of the Selemdzha is surrounded almost concentrically by high mountain ridges, which form the northern part of the Bureya Mountain country.

The Bureya Mountain country comprises the entire region of the river of that name, and in addition sends out spurs to the lower Amur and the Amgun'. In it the strip direction toward the northeast is again clearly manifest both in the Turan Ridge west of the river and especially also in the Bureya Mountain Range, the backbone of the entire mountain country. The Bureya Mountain Range is a continuation of the Lesser Khingan lying in the Manchurian area, and is therefore often also designated by the same name in Russian territory. The Amur cuts through /38/ the mountain chain in a more then 150 kilometer long valley, which is often scarcely one kilometer wide and which is lined by high rocky banks. Here on the Amur, the Bureya Mountain Range is only 200 to 500 meters high, but it rises toward the north, where between the area around the source of of the Selemdzha and that of the Bureya it has the greatest elevations in the area with heights of 2, 155 and 2, 119 meters. Here parts of the mountain chain also have special names locally, for example the Duse-Alin, which surrounds the source area of the Bureya, and the Yam-Alin, which is up to 2, 000 meters high. In addition to the gneiss, grantite, and metamorphic slates, there are extensive deposits

133 of porphyry and diabase, and in the south Jurassic sediment especially. The valley of the Bureya has extensive deposits of strongly dislocated Jurassic hard coal. The ridges often have the character of greatly cut up high plains.

The wide plain on the middle Amur is divided into two parts by the lower course of the Zeya. West of the Zeya stretches the Amur-Zeya Plateau, to the east is the Zeya-Bureya lowland. The first is a high plain, which generally lies 250 meters high and consists of flatly laid out Jura and brown coal-bearing Tertiary; this high plain bends gently from northwest to southwest. The watershed areas are very flat; the valleys, on the other hand, are deeply etched. On the steep banks of the Zeya the Tertiary, reckoned from the river bed, has a thickness of 150 meters. Therein appears in many places granite, gneiss, and, in some places, porphyry, melaphyre, and basalt. The area between the Zeya and the Bureya is higher in the north and has here a hilly terrain. On the left side of the Zeya and along the Amur extending beyond the mouth of the Bureya to the east is a pronounced lowland, which is principally filled with recent Tertiary deposits. In open lodes of individual hills, however, old stones appear, too. The entire region of the middle Amur owes its present form to an incurvation in large waves of the root plain in the Tertiary period. However, still later vertical movements occurred, too, as is indicated by four clearly formed terraces both on the Zeya and also on the Amur. The highest lies 100 to 120 meters above the present level of the lower course of the Zeya.

The region around the lower Amur, which begins at Khabarovsk, can be regarded as a long graben depression between the Lesser Khingan and the Bureya Mountains on the one side and the Sikhote-Alin' on the other. The region north of the lower Amur which has still been but little explored is very much broken up. Here, too, the faults stretch predominantly toward the northeast as in the Bureya Mountain country, but the disturbance of the structures, which go back to two variegated phases following one another, is extraordinarily great. The bays south of the Shantar Islands can be regarded as graben breakins, while the islands themselves, which are formed from slate and granite, are remaining horsts.

Actually the lower course of the Amur, comes very close to the sea with its Kizi and Kada lakes. But after a turn to the north, it takes in the Amgun, making a sharp /39/ turn to the east, where it empties into the sea. This phenomenon can be explained by

andesite and basalt overflows, resulting here from the formation of the Sikhote-Alin' and by later crust movements.

The Sikhote-Alin' is a mountain block surrounded on all sides by breaks. Only in the south is there a covering formation. The main fault with overextensions toward the northwest occurs in the Lower Cretaceous /Unterkreide/. The faults stretch toward the northeast to east-northeast. Steep breaks occurring later have cut up both the Sikhote-Alin' and also the Ussuri country and led to rises and depressions. The main break lines follow the lines of the mountain faults. Thus the Ussuri depression came into being as a break-in. The coast, too, came into being through a breaking-off. In the north, opposite Sakhalin, however, the coastal break line bends toward the north and converges here with the lines of the faults. In the south the Sikhote-Alin' ends with a cross break. The following facts on stone composition are of greatest importance for the present surface forms. In the central and also the border sections, granite predominantly forms the oldest layers. It appears in the old surfaces and in the lower slopes as a pronounced massif, while the flanks mostly are covered by younger, heavily faulted and destroyed stones--in the west predominantly by crystalline slates, gneiss, micaschist, and quartzite; in the central part predominantly by phyllite, argillaceous schist, silicious schist, and sandstone. Of the effusion /Erguss/ stones, porphyry as a rule forms the numerous round tops, while basalt is represented in the extended cover effusions. The southern part of the Sikhote-Alin' is differentiated from the northern by the appearance of overextension covers /Überschiebungsdecken/. In numerous places, especially on high mountains, marbled limestone of Permo-carboniferous age, forming thick layers, lies in the form of individual clods. Also the northwestern topplings over of Jurassic and Triassic point to over-extensions /Uberschiebungen/. These must have occurred in the period between the upper Jurassic and the Miocene and have come from the direction of the Sea of Japan. The surface forms are predominantly of a single form. Long, vallied ridges with tops set over them, and winding, unequally formed valleys, often with convex slopes, are characteristic. In the basalt coverings the rivers have dug deep, canyon-like valleys. Of significance for the newer relief formation are the vertical movements, begun in the Diluvia age but still not completed at present. Broad abrasion terraces lie near Vladivostok reaching heights of 10, 30, 50, 120 meters and, in individual places, up to 300 meters. At present

• 133 the southern coast is sinking while the east coast apparently is rising. A consequence of the old and late Diluvia elevation is the crooked position of the entire Sikhote-Alin' block with its inclination toward the interior of the land.

The alpidic fault zone is limited to the extreme outer areas and is retained only in fragments. From there arise indications of two large fault arcs. The western one appears on /40/ Sakhalin and reappears apparently on the northern coast of the Sea of Okhotsk in the Chutkavar Hills west of Magadan and on the Koni, P'yagina and Taygonos Peninsulas, to circumscribe the Penzhina depression on the west and the Anadyr' lowland on the north in a swinging arc. Kamchatka, along with the Koryak Mountain Range adjoining it on the northeast, forms the core of the second arc, while the Kuril arc is a continuation toward the south to the Japanese Islands, where the two fault arcs come together on Yesso Island. The western arc is distinguished from the eastern one by the lack of active volcanos, which distinguish Kamchatka and the Kurils especially.

On Sakhalin continental formations alternate frequently in the sediments of the Upper Cretaceous /Oberkreide/ and thus indicate that the island is located on the border of a geosyncline. The two mountain chains, which are separated by the long Tym and Poronay depressions filled with marine recent Tertiary, differ substantially from one another. The eastern mountain range projects up to 2, 013 meters and shows break and shield formations in addition to an older, probably variegated /variscischen/ fault with heavy intrusions. The western mountain on the other hand consists only of more recent rocks, especially Upper Cretaceous and Old Tertiary. The Tertiary fault stretching meridionally repeats, therefore, the variegated /variscische/ direction visible in the eastern range. The faulting is irregular in individual places and decreases toward the north. Of the three Tertiary phases which are distinguished, the youngest is expressed predominantly in long breaks with effusions both on the west and on the east coasts. The vertical movements appearing with these have lasted up to the present. In this the northern tip of the island is sinking, while in the middle of the island marine Quarternary has risen up to 150 meters and five beach terraces are visible on the banks.

The structure of Kamchatka is similar to that of Sakhalin. A break-in zone running approximately toward the north-northeast, and containing the Kamchatka River which flows from the south and the

Yelovka which comes from the north to meet the Kamchatka, divides two mountain chains, which run parallel toward the north-northeast in the same direction. Also on Kamchatka, in the eastern part, there are remains of an old Caledonic or variegated /variscischen/ zone, whose faults, however, extend toward the northwest and meet the Tertiary faults at right angles; this, as well as other causes, explains the destruction which is so pronounced even for the east. The western range is a 1, 000 to 1, 200 meter high middle mountain range. Basically it consists of crystalline slate and phyllite, on which sandstone and slate, presumably of Paleozoic age, are deposited, and of Upper Cretaceous and Tertiary from Oligocene to Pliocene with heavy effusions, which are faulted several times with north-northeast strips and overextensions toward the southeast. West of this mountain chain stretches a cut-up coastal table, elevated to 600-750 meters and consisting of dislocated marine Pliocene deposits, partly also of Upper Cretaceous; this coastal table slopes to the Sea of Okhotsk /41/ in several beach terraces. This coastal zone, too, appears to lie in gentle waves and is broken through by isolated elevations consisting of eruptive rock. The western chain conceals numerous extinguished and heavily destroyed volcano ruins. In the center rises the 3, 607 meter high Ichinskaya Sopka with its mighty dome and some sloping glaciers. It is the only active volcano in the western half of Kamchatka, and its crater constantly expels clouds of smoke. In contrast to the straight, elevated west coast, the east side of Kamchatka is much broken up by numerous break-in basin-shaped valleys. The eastern mountain range is very heavily destroyed, in many places overlaid by volcanic masses; and therefore only fragments of the original structure are visible. Granite and crystalline slates are indicated here as Proterozoic. The tectonic action /Durcharbeitung/ is so strong that even the Pliocene is shoved over /überschoben/. Connected with this destruction are the especially heavy volcanic formations on the eastern side of the peninsula, and in this the eruptions as a rule follow the great breaks, which run perpendicular to the faulting. Of the 127 known volcanos, 74 are recent volcanic formations, and of these 18 are still active today. The most important is the immense, regular andesite basin-shaped cone of the Klyuchevskaya Sopka which has a height of 4, 775 meters and is covered down to 1, 500 meters with perpetual snow and glaciers. The Commander Islands also have recent volcanos. Tertiary is also

• 133 found on them.

Kamchatka Peninsula is connected with the mainland on the north only by a narrow plateau which is up to 155 meters high, the Parapolskii-Dol, which was elevated only in recent times. North of this narrows stretches the Koryak Mountain Range, which really is a broad zone and which with its mountain ridges continues the faults of Kamchatka in the same direction. The three known main chains, the Palpal, the Tingeney, and the Rarytkin, consist, according to knowledge to date, of Cretaceous and Tertiary deposits with basalt eruptions. The present formation of the area appears to go back more to more recent clod /Schollen: maybe, shield/ movements, which were their strongest in the Diluvia and which gave rise to dispersals and even block overextensions /Blockuberschiebungen/. Elevation dominates on the coast today, too, and on this elevation two elevated beach terraces can be observed. However, the entire area of the Koryak Mountain Range is among those little explored areas, and accordingly further clarification must await the future.

The Kuril arc adjoins the southern tip Kamchatka. Twenty-three islands have volcanos, of which 18 are still active.

Knowledge of the Anadyr' region and of the Chukchi Peninsula is still very slight. Only the coastal areas are better explored. The line of the mountain chains appears to be varying and is influenced by an older core of the "Chukchi Mass" lying in the north; around this mass the mountain chains order themselves in a similar fashion to the way they do around the old Angara mass. /42/ Thus a main fault line stretches approximately from west to east through the Chukchi Peninsula, and this line apparently consists of two chains. Also further south, in the Kolyma area, the chains fit into this order with a line from southeast to northwest. In time these orogenies belong to the Mesozoic.

The Ice Age and It. Traces

Most of Transbaykal and the Far East was spared the Quarternary glaciation. The nearness of the Central Asiatic heights with land air currents in the winter and with resulting slight rainfall in the cold season may have contributed significantly to this in wide areas of the country, while in others the southern position can be assumed to be an additional reason. Where glaciation was able to form, special local conditions must have led to this, but research still cann

give a final judgment on the reasons for these special conditions. Only three sections were gripped by the glaciation in large measure: the extreme northeast, Kamchatka Peninsula, and the area east and northeast of Lake Baykal. Even in these regions the extent of the glaciation was limited mostly to the mountains and the higher parts of the land, while lower plains remained free of ice; accordingly the glaciation--even though in spots it may have extended over quite a large area--had only a local character here, which cannot be compared with the mighty ice-covering which Europe experienced.

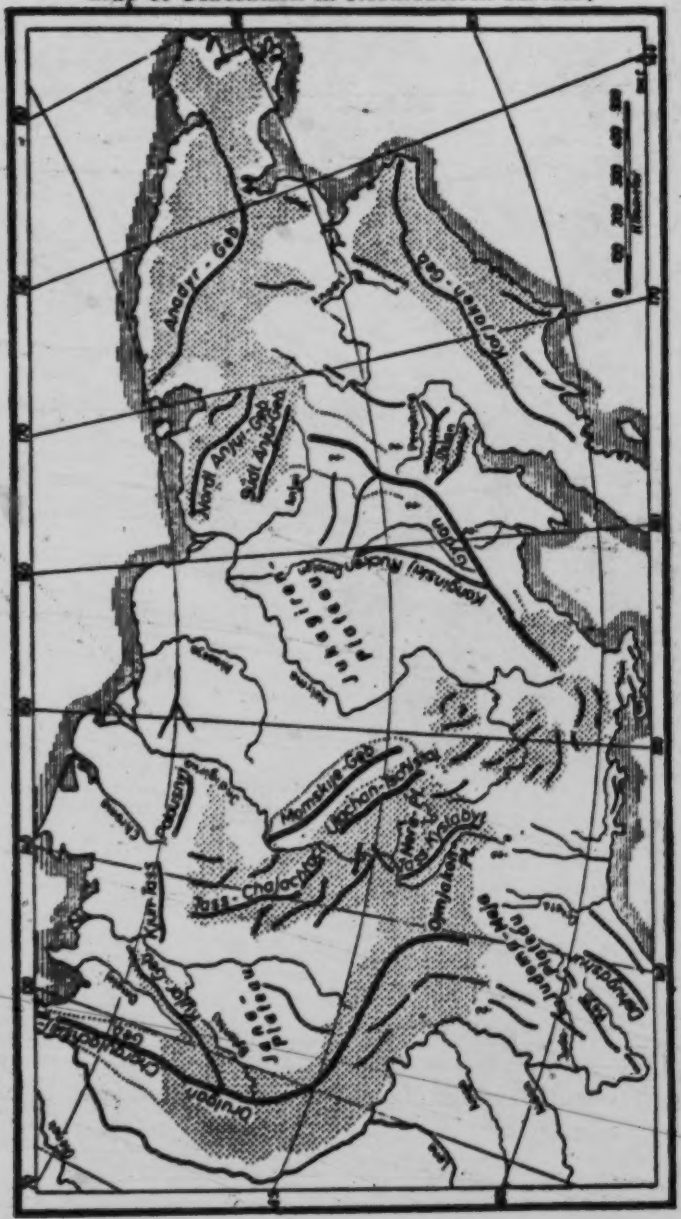
The glaciation of the extreme northeast is related to the similar occurrence in all of northeastern Siberia, and together these glaciations form an entire complex of ice-covered mountains and of ice-free plateaus and plains lying in between the mountains. The area of glaciation extends over the entire area from the lower course of the Lena in the west to the Chukchi Peninsula in the east. The glaciation of this region stands in contrast to the conditions in central Siberia, which remained ice-free for the most part. The next glaciation area is far west of the lower course of the Lena in the river valley of the Khatanga. Thus the northeast Siberian glaciation area forms a specific unit in which the same conditions are predominant. In order now not to remove the areas belonging to the Far Eastern region from this context, since they, of course, constitute only a part of northeastern Siberia, we must be permitted to go into detail on the Ice Age conditions in the entire area in order to get a better survey. But here, too, the limitation must be made that, because of the still inexact investigation, exact details can be given only for individual areas, while in the rest we must be satisfied with a general picture. In this connection mention may be made /43/ /Map of Glaciation in Northeastern Siberia:/ /44/of the author's essay, "Die Eiszeit in Sibirien" in the periodical Erdkunde /Earth Science/ (Bonn 1951, Vol. V).

The glaciation east of the Lena sets in with the arc of Verkhoyansk Mountain Range. This begins in the north with the 1,200-1,300 meter high Kharaulakhskiy Mountain (Kharaulakhskiye Gory), whose spurs extend into the Lena Delta. There is still not general agreement whether or not this mountain experienced glaciation. Some researchers, such as Parkhomenko (149) and Saks (170)

149. Parkhomenko, S.G. Nekotorye dannye o prirode Nizhnelenskogo kraya /Some Statements on the Nature

Map of Glaciation in Northeastern Siberia:

133



The dotted areas give a survey of the glaciated regions. Since--apart from the area between the mouth of the Kolyma and the Chukchi coast and the Koryak Peninsula--the glaciation is of the Alpine type, the area appears disproportionately large. The picture is unclear on the mountain ranges outlined by dotted lines. /43/

• 133 of the Lower Lena Area/. Trudy of the Commission for Research on Yakutia, 1928.

170. Saks, V.N. "O chetvertichnom oledenenii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

answer this question with a yes, while others, such as Romanov (160)

160. Prasolov, L.I. Iuzhnoie Zabaikal'ye /Southern Transbaykal/. Material for Ground Research in Asiatic Russia. Moscow, 1927.

and Vollosovich answer this question with a no, although even today the mountain still has ice caps. There is no question about the Orulgan Mountain Range, which extends up to 2,000 meters in height and which adjoins the Verkhoyansk on the south. The Orulgan has incontrovertible signs of an extensive valley glaciation (84). The glaciers

84. Ivanov, A.P. "Novye dannye o geologicheskom stroenii i poleznykh iskopaemykh Orulganskogo khrebta /New Information on the Geological Structure and the Natural Resources in the Orulgan Area/," Problemy Arktiki, No. 4, 1938.

rose from the valleys toward the west where they joined with a foreland glaciation and almost reach the line of the present Lena. On the east they extend as far as the Bytantay, a left tributary of the Yana (170).

170. Saks, V.N. "O chetvertichnom oledenienii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

The Kular Mountain Range, stretching on the left side of the Bytantay from the Orulgan toward the northeast to the lower Yana, has also undergone glaciation, according to Saks. The real Verkhoyansk Mountain Range, which begins in the area around the source of the Bytantay, has heights up to 2,000 meters in the west and toward the southeast rises to heights up to 2,500 meters. It experienced a similar glaciation to that of the Orulgan Range. Here, too, valley glaciation predominantes, but it was stronger and more extensive than that of

the Orulgan. The glacier appeared toward the southwest and south and, as a closed foreland glaciation, moved as far as the Lena and the Aldan. Its extreme edge reached a distance of up to 200 kilometers from the foot of the mountain range and descended to an absolute height of 2,000 meters. (74, 137). At the time of its greatest ex-

74. Gregoriev, A. A. Geologiia, relief i pochvy severo-Zapadnoi chasti Lensko-Aldanskogo plato i Verkhoianskogo khrebta po dannym ekspeditsii 1925 g. /Geology, Relief, and Ground of the Northwestern Part of the Lena-Aldan Plateau and of the Verkhoyansk Mountain Range according to the Information of the 1925 Expedition/. Material of the Commission for the Study of Yakutia No. 4, 1926.

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/ Trudy SOPS, Yakutia Series 1, 1931.

pansion it reached the Okhotsk tract at the passage over the Aldan. Traces of an old glaciation are, according to Saks, also found in the Dzhugdzhur, which stretches along the coast of the Sea of Okhotsk. However, here there is still no exact information on the extent or the type of the glaciation.

The extent of the Verkhoyansk Glacier to the north is still too unevenly investigated to permit final conclusions. Khmysnikov (45)

45. Khmysnikov, P.K. Geomorfologicheskii ocherk Lensko-Yanskogo Kraya /Geomorphological Sketch of the Lena-Yana Area/. Trudy SOPS, Yakutia Series 1, 1932.

found no moraines on the Yana Highland (Yanskoye Ploskogorye). Better known is the southeastern part, the area around the upper course of the Indigirka. Here between the Verkhoyansk Mountain Range and the chains of the Cherskiy Range lie two highlands, the Oymyakon Plateau (the area around the source of the Indigirka) in the south and in the north the Nera Plateau (Nerskoye Plateau, drained from the Nera to the Indigirka); these two plateaus are separated from one another by the Tas-Kystabyt Mountain Range. The Cherskiy Range, which apart from Kamchatka has the highest elevations in northeastern Siberia (the Gora Chen is 3,114 meters high), has a mighty ice covering,

● 133 which, accroding to S.V. Obruchev (137), has the character of an

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/. Trudy SOPS, Yakutia Series 1, 1931.

inland glaciation. The glacial mass overflows the Nera Plateau (down to heights of 1,000 to 1,299 meters), the /45/ Tas-Kystabyt Mountain Range, which in addition, through its own glacial formation, contributes to raising the entire mass of the ice, and the Oymyakon Plateau (down to heights of 1,500 meters). Here the glacial mass meets with the glaciers flowing toward the north from the Verkhoyansk Range. The entire area between the two main mountain chains has thereby a closed ice covering. The glacial mass on the Oymyakon Plateau is 400 meters thick, according to S.V. Obruchev. (137)

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/. Trudy SOPS, Yakutia Series 1, 1931.

Peculiarly enough the very significant glaciation of the Cherskiy Mountain Range developed only slightly toward the north; the ice masses moving in that direction did not once reach the Momskiye Mountain Range running parallel to the Cherskiy (the river valley of the Moma separates the two mountain ranges). The Cherskiy Range, whose highest elevations project more than 2,000 meters, is supposed, in the opinion of some researchers, not to have been glaciated more, but this is contested by others. Thus, the question of the glaciation of the Momskiye Range still remains unanswered. The Cherskiy Range even today still has glaciers, whose extent, however, it has not been possible to determine up to now. Further north between the Yana and the Indigirka, glaciation of the Tas-Khayakhtakh is still known, and from this range glaciers pressed forward as far as the Indigirka (approximately 68° North). The extreme north, however--the Polousnyy Range--is, according to the newest information, no longer supposed to be covered with ice, despite its height of up to 1,200 meters. (170)

170. Saks, V.N. "O chetvertichnom oledenienii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

The mountain chains in the area around the upper course of the Kolyma show numerous and clear glacial traces (the Garmytshan, Arga Tas, and other ranges), but these traces never lie below 500 meters above sea level, and accordingly only a more local glaciation can be assumed for this area. Also the Kolyma Plateau, adjoining it on the north, has only individual local glaciation centers, which extend over slight areas. More detailed information on these regions is not available.

Between the upper entrance area of the Kolyma and the coast of the Sea of Okhotsk, and also in the southern part of the Gydan Mountain Range (also often known as the Kolyma Mountain Range), the glaciation was again greater and attained here the closed form of an ice covering. This occurred especially on the slopes inclined toward the Sea of Okhotsk; these slopes were covered by an extensive glacial mass, which at the time of its greatest size was of the Norwegian type. From the heights of the Gydan /also: Kolyma/ Ridge (2,000 meters) the glacier descended as far as the coast of the Sea of Okhotsk (74, 137). Full glaciation is assumed for the northern Gydan lying in

74. Gregoriev, A. A. Geologiia, relief i pochvy severo-Zapadnoi chasti Lensko-Aldanskogo plato i Verkhoianskogo khrebta po dannym ekspeditsii. 1925. /Geology, Relief, and Ground of the Northwestern Part of the Lena-Aldan Plateau and of the Verkhoyansk Mountain Range according to the Information of the 1925 Expedition/. Material of the Commission for the Study of Yakutia, No. 4, 1926.

137. Obruchev, S.V. Kolymsko-Indigirskiy Kray /The Kolyma-Indigirka Region/. Trudy SOPS, Yakutia Series 1, 1931.

the interior of the country, and this glaciation continued then as far as the Chukchi Peninsula.

In contrast to the relatively heavy glaciation of the mountain ranges, the plains lying inside the arc of the Verkhoyansk and Gydan Ranges were free from every form of ice covering. This applies both to the higher plateaus and also to the coastal plains and the hinterland, areas which morphologically consist of very different units: the depression /46/ of the Omoloy, the Yana, Indigirka, and Kolyma, the Alazeya Plateau (descending to heights of 200-700 meters) on the

•133 eastern side of the Indigirka, the Yukagir Plateau east of the Kolyma (Yukagirskoye Ploskogorye, 300-400 meters high with local elevations of 1,000-1,200 meters). Within these regions older (Vollosovich) and also newer explorations, such as those of S. V. Obruchev (74) and

> 74. Gregoriev, A. A. Geologiia, relief i pochvy severo-Zapadnoi chasti Lensko-Aldanskogo plato i Verkhoianskogo khrebta po dannym ekspeditsii 1925 g. /Geology, Relief, and Ground of the Northwestern Part of the Lena-Aldan Plateau and of the Verkhoyansk Mountain Range according to the Information of the 1925 Expedition/. Material of the Commission for the Study of Yakutia, No. 4, 1926.

Vakar (224) have found no traces of glaciation. Vollosovich only found

> 224. Vakar, V. A. Geologicheskie issledovaniia v basseine reki Berezovki /Geological Research in the Berezovka Basin/ Isvestiia of the Geographical Society No. 65, 1931.

sand in the river valley of the Omolon, a right tributary of the Kolyma, which he indicated as fluvioglacial, and shifting rocks, which could, however, have also been transported here by river ice. This slight finding certainly admits of the possibility.

According to knowledge to date, the area between the lower Kolyma and the Chukchi Peninsula is regarded as having been fully glaciated. The indicated of this lies in numerous reports: but the character of the glaciation is not clear. S. V. Obruchev (136) is of

> 136. Obruchev, S. V. Drevnie oledeneniie i chetvertichnaia istoriia Chukotskogo okruga /Old Glaciations and Quarternary History of the Chukchi Okrug/. Isvestiia of the Academy of Science, 1939.

the opinion that the ice covering was not everywhere closed. The main carriers of the glaciation were the northern Anyuy Mountain Range, in the main section the Anadyr' Range in the west and the ridges of the Chukchi Peninsula in the east. The borders of the entire glaciated area have still not been determined in detail. But there are numerous reports that the glacier in places extended to the coast, thus, for example, on the Chaun Bay in the north, on Cape Chaplin, and in the Provideniya in the east. Toward the south in the direction

of the Anadyr' depression the glacier crossed the foot of the mountains only in slight measure. From the northern Anyuy Range the glaciation zone continues toward the south to the Gydan /also: Kolyma/ Range, but information on the borders of the glacier in this direction is lacking. As Saks (170) reports, more recent research has been made in the area 133

170. Saks, V.N. "O chetvertichnom oledenienii severa Sibiri /On the Quarternary Glaciation of Northern Siberia/," Arktika, Vol. IV, 1936.

of this glacial region and also on the Chukchi Peninsula, but this research has not yet been published.

The glaciation of the Koryak Peninsula was almost as extensive and as closed off as that in the north. The starting point for the ice masses was the 1,300-2,200 meter high Koryak Mountain Range, and from here the ice masses flowed in a broad front to the sea. In the process they not only covered over the slope gently inclined toward the southeast, but in parts they even reached the coastline. In contrast to the ice flow in this direction, the ice flow toward the northwest to the lowlands of the Anadyr' and the Penzhina was slight.

Apart from the northern and southern edges, the Anadyr' Lowland is itself free of all traces of a glaciation, as Polevoi (155),

155. Polevoi, P.I. Anadyrskii krai /Anadyr' Kray/. Trudy of the Geological Commission, 1915.

Soszawa (135), and S.V. Obruchev (136) have determined. Glacial

135. Soszawa, V. "Das Anadyrgebiet," Zeitschrift der Gesellschaft für Erdkunde /Journal of the Geological Society/, Berlin, 1930.

136. Obruchev, S.V. Drevnie oledeneniie i chetvertichnaia istoriia Chukotskogo okruga /Old Glaciations and Quarternary History of the Chukchi Okrug/. Isvestiia of the Academy of Science, 1939.

traces are also very rare in the western hinterland between the upper course of the Anadyr' and the Penzhina. Here they appear only in places in the mountain ridges and then only from a height of 1,000 meters. Also the transition area from the Anadyr' Lowland to Penzhina

• 133 Bay has experienced no glaciation. However the mountain ranges north of Penzhina Bay (Kamennyy and Ichigemskiy Ranges) have housed glaciers, as is indicated by the glacial deposits on the Oklan, a right tributary of the /47/ Penzhina. Individual glaciers have even pushed as far as the Penzhina itself and have borne ahead shifting rocks as far as the neighborhood of the mouth of the Penzhina.

The Anadyr' Lowland was separated from the basin of the Kolyma in the Ice Age, undoubtedly by heavy mountain glaciations, just as the basin of the Kolyma was isolated from the Yana and the Indigirka. In this connection the Anadyr' Lowland played a special role as a place of refuge for the Arctic plant world. Here the plant world could preserve itself in order to re-occupy the land as it became free after the disappearance of the ice. Tolmachev (217, 218) and the Swede Hultén

217. Tolmachev, A.I. O proiskhozhdenii tundrogo landshafta /On the Origin of the Tundra Landscape/. Priroda, 1927.

218. Tolmachev, A.I. Flora tsentral'noi chasti Vostochnogo Taimyra /Flora of the Central Parts of the Eastern Part of the Taimyr Peninsula/. Trudy of the Polar Commission, No. 8, 1932.

(81) have devoted detailed investigations to these questions. Hultén

81. Hultén, E. Outline of the History of the Arctic and Boreal Biota during the Quarternary Period. Stockholm, 1937.

has determined that similar conditions to those in the Anadyr' Lowland must have prevailed on the side of Alaska lying opposite this area. On the basis of the similarity of the plants and the type of their diffusion around and on both sides of the Bering Sea, he comes to the conclusion that a land connection between the two continents must have existed during the Ice Age. Now Antevs and Daly (48) have reckoned the

48. Daly, R.A. "Pleistocene Changes of Level," American Journal of Science, Series 5, Vol. 10, 1925.

the eustatic depression of the surface of the water for the maximum glaciation at 90-100 meters. According to the present depth relationships in the area of the Bering Strait, a lowering of the sea level by

50 meters would have caused the formation of a land bridge 300 kilometers wide, and a lowering by 100 meters would have caused the formation of one 1,200 kilometers wide. Hultén asserts on the basis of his plant-geographic investigations that a land bridge at least 1,200 kilometers wide must have existed.

With the existence of such a wide land bridge the climatic conditions in "Beringia," as Hultén names this combined land connection, must have been essentially different from what they are today. The southern coast of Beringia was washed by the warm water of the Pacific. The moderating influence of this pressed toward the north and made itself felt at least in the lower regions in the south of the Chukchi and Alaska Peninsulas. Only thus can an explanation be found for the fact that in the lowlands of the Anadyr' and Penzhina, surrounded by glaciated mountains, relics of a Tertiary flora have remained even up to the present, and there are even wood types, such as the Chosenis macropolis and Betula cajandri.

Since in the formation and preservation of the land connection between the two continents isostatic forces could have had their effects then and long afterward, the possibility cannot be rejected that the land bridge could also have existed for a certain time in the Post-glacial period. The marine Quarternary at the Bering Strait is indicated as a deposit of an inner basin. In the Anadyr' basin the marine transgression was a very late one; it consists exclusively of recent forms of superior preservation and is obviously very young. These determinations point to a late appearance of the sea. /48/ With the recognition of a continued existence of the land bridge in a Post-glacial time an acceptable solution would be found for the question of the immigration of people from Asia to America, even though exact proof must be left for the future.

On Kamchatka the high volcano basin-shaped gorges (Klyuchevskaya Sopka 4,775 meters, Sopka Tolbachin 3,682 meters, Koryatskaya Sopka 3,457 meters, and others) are even today covered by glaciers, which extend down to a height of 1,200 meters. Numerous indications of an old glaciation are known especially on the southeastern coast. In Avacha Bay near the city of Petropavlovsk a developed trough valley formed by a more than 50 kilometer long glacier has been determined, which almost reaches the sea coast. At the foot of the Kamen' Volcano lie moraines at a height of 200-250 meters above sea level (103).

103. Konradi, S. A. and Kel', N. G. Geologicheskii otdel

•133 Kamchatskoy ekspeditsii 1908-1911 /Geological Division of the 1908-1911 Kamchatka Expedition/. Isvestiia of the Geographical Society, 1925.

In the view of various researchers this is a foreland glaciation, which in places pressed forward as far as the coast (101). In contrast to this,

> 101. Komarov, V.L. Putishestviie po Kamchatke /Travels in Kamchatka/. Reports of the Kamchatka Expedition, St. Petersburg, 1912.

the glaciation on the west coast was not so extensive or so thick. The glacier pressed only a little beyond the foot of the mountains into the flat coastal plain. While on the east side, as has already been mentioned, the glacier almost reached the coastline, on the west coast it came only to a point 70-80 kilometers from the coastline at the same latitude as Petropavlovsk. (101) Further to the north, in the river area of the

> 101. Komarov, V.L. Putishestviie po Kamchatka /Travels in Kamchatka/. Reports of the Kamchatka Expedition, St. Petersburg, 1912.

Belaya, old moraines lie at a height of 630-687 meters above sea level, all of this being a sign that the glaciation in the west was slighter than that in the east. The glaciation of Kamchatka proceeded both from the eastern and from the western mountains. In the south, where the two mountain chains meet, the ice masses, too, joined together. On the other hand, the Kamchatka Valley itself was not glaciated, even though it was surrounded on three sides by glaciated mountains. In the interior of the long valley, which is only up to 80 kilometers wide, there are only river and lake deposits, and not until the rims do fluvio-glacial formations and then also moraines appear (113). Thus the

> 113. Kushev, S.L. Geomorfologicheskii ocherk severnoi chasti tsentral'noi. Kamchatki depressii i doliny srednogo techeniya reki Kamchatki /Geomorphological Sketch of the Northern Part of the Kamchatka Depression of the Valleys on the Middle Course of the Kamchatka River/. Doklady of the Academy of Science, Moscow, 1938.

glaciation of Kamchatka mirrors approximately the present rainfall. During the Ice Age the snow border lay at approximately 700 meters; today it lies at a height of 1,500-1,800 meters.

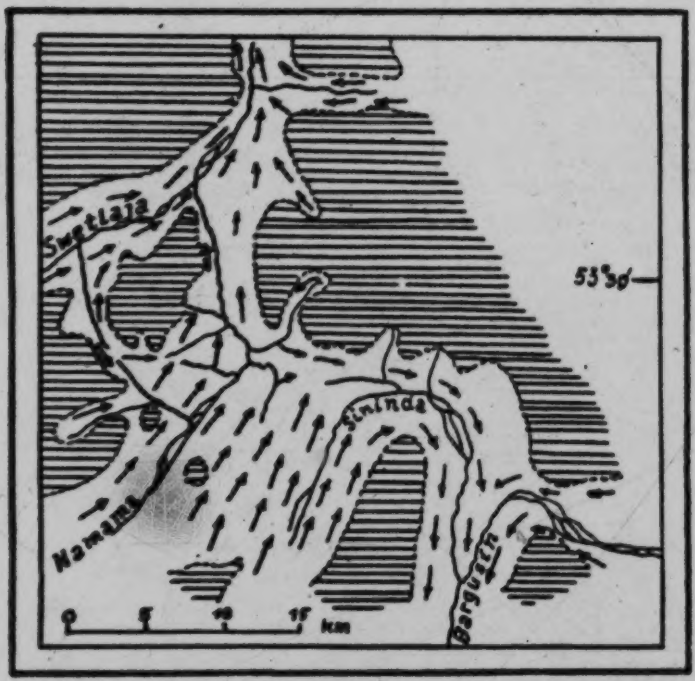
The area round Lake Baykal should be mentioned as the final area of extensive glaciation. In the first place this is a mountainous area northeast of Lake Baykal, and this mountainous area begins at the northeastern end of Lake Baykal and stretches beyond the Vitim to the Olekma (North Baykal mountain country, Patom Plateau). According to the writings of numerous researchers (Krapotkin, V. Obruchev, A. Gerasimov and others), the fact of an extensive glaciation of this area is beyond doubt, but opinions differ on the type of glaciation, and this is being clarified only gradually. V. Obruchev first asserted that it was an inland glaciation, and from here he came to the view that there was a great glaciation of all of north Siberia, but this was later proved erroneous. As proof of the inland ice character northeast of /49/ /Map of Glaciation in Transbaykal (according to Eskola (58)/.

58. Eskola, P. "Beobachtungen über die Glazialbildungen in der Gegend der Wasserscheide zwischen dem Barguzin und der ob. Angara in Transbaikalien," Comtes rendu de la Societé Geologique de Finlande. /Proceedings of the Geological Society of Finland/ No. 1, 1929.

The sketch shows the extent of the glacier in the watershed region between the Barguzin and the Namama, which flows via the Svetlaya into the Upper Angara. The white areas represent the glacier with its various directions of flow. The directions of flow follows the river valleys, while the high plains lying in between remained free from all glaciation. The type of glaciation depicted in the sketch can be considered as typical of Transbaykal.) /50/ Lake Baykal, Obruchev points principally to the following marks: rounded mountain slopes, round knolls, gorges, gorge lakes, trough valleys, worked out terraces, Oser, etc., and also erratic blocks, which appear on the watersheds. Meister (123) /sic/ later pointed out that the "erratic blocks" on the watershed

123. Lopatin, I. A. Gol'dy /The Goldi/. Zapiski of the Society for Exploring the Amur Area. Vladivostok, 1922. /The author probably meant to refer to footnote 128: Meister, A. K. Vostochnaia okraina Lenskogo zoloton osnogo raiona /The Eastern Border Area of the Lena Gold Fields/. Geological

Map of Glaciation in Transbaykal (according to Eskola (58). 133



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Research in the Gold Fields of Siberia, No. 10, 1914./

•133 are of local origin and consist of the same rock as that lying underneath, which otherwise is covered over with deposits. The rounded off slopes in these regions of permafrost could also have been formed by ground flows. Meister declared verbatim: "On the Vaga I saw loamy masses of great thickness which in their movement tore along with them century old trees as though a hurricane had passed through there; also embedded pieces of neighboring rocks from the earth were carried along--in a word: it was a recent loam glacier." (128) On the

128. Meister, A.K. Vostochnaia okraina Lenskogo zoloton osnogo raiona /The Eastern Border Area of the Lena Gold Fields/. Geological Research in the Gold Fields of Siberia, No.10, 1914./, pp. 22-23.

basis of this and other determinations, V. Obruchev changed his opinion and accepted the reduction of the glaciation from an inland ice covering in the north (Vitim-Olekma mountain country) to an Alpine type in the south. However, the results of further research have caused it to be recognized that we are dealing here generally with one glaciation of the Alpine type. Eskola (58) has conducted investigations east of Lake

58. Eskola, P. "Beobachtungen über die Glazialbildungen in der Gegend der Wasserscheide zwischen dem Barguzin und der oberen Angara in Transbaikalien" /Observations on the formation of glaciers in the area of the watershed between the Barguzin and the upper Angara in Transbaykal/ Comtes rendu de la Societe' Geologique de Finlande./ Proceedings of the Geological Society of Finland/, No. 1, 1929.

Baykal between the Vitim, Upper Angara and the Barguzin, and these investigations have clearly indicated the Alpine character for this region. The valleys of most of the rivers (Barguzin, Svetlaya, Sininda, Namama, Oktokitan, etc.) were filled with ice masses of great valley glaciers, which had a thickness of 400-500 meters. The higher elevations projected above the ice level of the valleys, but had themselves small glaciers, which descended to the valley glaciers. The Barguzin Mountain Range, whose surprising similarity to the Alps is brought out by all researchers, can be regarded as the best example for this region.

Remarkably enough the valley of the Upper Angara, which 133 ●
stretches far to the east between glaciated mountain ranges (Upper Angara Range in the north, the Barguzin Range in the south) was not exposed to glaciation.

Also south of Lake Baykal the mountain ranges had glaciers, which in the valley of the Slyudyanka and Pokhabikha reached the level of Lake Baykal in the form of valley glaciers. Here more than 25 glaciers have been counted in an area of 60 square kilometers, but these were all only insignificant ones which at most had a length of 10 kilometers. The landscape is rich in gorges, which lie at very different heights ranging from 50 meters to 600 meters above the present level of Lake Baykal (454 meters above sea level). Thus the Ice Age snow boundary must have been very low here in comparison with the neighboring Sayan (around 2,000 meters) and the northeastern Baykal area (at least 1,200 meters). An explanation for this striking appearance can be seen in the fact that Lake Baykal itself even in the Ice Age /51/ exerted an influence on the climate of the surrounding areas, an influence which was especially noticeable here in the southern part where even today the rainfall is high. The slope of the Khamar-Daban turned toward Lake Baykal is the rainiest area in Transbaykal. But in addition there is the fact that southern Lake Baykal is an area of recent depression, which continues even today, and accordingly the traces of the glaciers can also be regarded as subsequently dislocated.

There are also local glaciations in Transbaykal apart from the above-described glaciated areas. The best known are the glaciations of the 2,500 meter high Sokhondo and neighboring mountains, where gorges, trough valleys, and even moraines appear on the slopes.

Traces of an old glaciation have also been found in the Dzhugdzhur, in the Stanovoy, which extends up to 2,482 meters in height, in the Tukuringra Range in the heights on both sides of the Zeya break-through, and in the Yam-Alin (2,215 meters). However, the signs are but slight throughout and appear only in a limited area, and accordingly here there were at most individual dotted glacier formations.

The Permafrost and Its Significance

The largest part of the Soviet Russian Far Eastern region lies 137 134
in the sphere of the permafrost or the Eternally Frozen Earth, as this

on the east coast is distinguished by heavy clouding and numerous fogs. In July as a rule half the days are foggy. 132

The western coastal area is more under the influence of the Sea of Okhotsk and is dominated in winter by the cold and dry monsoon and northeast and east winds, which come from the center of the peninsula and which are cold and dry, in contrast to the east coast. For these reasons the rainfall in the winter is only a fraction of the summer rainfall: the winter rainfall is only a fourth to a third of the summer rainfall. The snow covering on the west coast is therefore slight, generally reaching only 40 centimeters. However, the distribution is uneven since the winds coming from the mountains often blow the mountains free of snow and pile the snow in the troughs and valleys. However, in contrast to the east coast, snow storms are a rare phenomenon. Summer is cool and especially foggy, the clouding is very great. The local winds, which move into the interior of the island, often carry fog into the land for days and bring a damp coolness, which is of little help to plants. /80-81/Charts on following pages/ /82/ The vegetation period is significantly shorter on the western side of the peninsula than on the eastern side.

The peninsula's central depression, which for the most part is occupied by the valley of the Kamchatka River, is extensively protected from the influences of the sea by two mountain chains on the east and the west; accordingly clearly marked, continental traits can be recognized in the climatic conditions here. Summer is warmer and drier than on the coasts; winter, on the other hand, is harsh but brings less snow than on the east coast, though even more than on the west coast. Characteristic of the central depression are the rapid transition from winter to summer and the warm autumn; accordingly we find here the longest vegetation period on the peninsula. The stone birches unfold their buds already in the middle of May here, while they appear in the coastal areas only around the 15th of June. As a consequence of this favorable condition, Kamchatka's central depression is most favorable for agriculture, which has already spread here on a large scale, while the coastal areas offer more opportunities for developing animal breeding.

The Border Seas of the East

Through its possession of the Kurils and southern Sakhalin, the 133 Sea of Okhotsk has become a Soviet Russian internal sea since

/133 World War II. It is separated from the Pacific Ocean by the barrier of the garland chain of the Kurils, where the numerous openings, which are only of slight depth, allow but a surface exchange of water. There are two connections with the Sea of Japan: La Perouse Strait and the Tatar Straight. The latter has been shut off by a dam connecting Sakhalin with the mainland since 1952. For the rest, the Sea of Okhotsk washes against the western side of Kamchatka, the mainland coast, and the north and east coasts of Sakhalin.

The Sea of Okhotsk

The northern coast seems more divided up than the other coasts. the Taygonos Peninsula divides the great Shelekhov Bay into the Gizhiga and Penzhina bays. West of Cape Koni the Tauyskaya Bay penetrates into the land, and in a part of this bay--the Nagayevo Bay--lies the harbor of Magadan which has become very well known in recent years. In the extreme west, where the mountain chains stretch into the sea, land and water penetrate one another and cause a disturbed, horizontal division; the Shantar Islands lying off the coast contribute to this. Apart from these islands and some coastal islands in the north, the Sea of Okhotsk is poor in islands; only the rocky /83/ /Map of the Sea of Okhotsk:/ St. Jonas Island lies alone in the watery area of the western part. For the rest the coasts appear strikingly rectilinear. On the west coast the mountains run parallel to the coast and slope to the coast in a steep descent. Flat approaches to the sea are found only at the mouths of rivers or behind bays. On the other hand the coasts of Kamchatka and Sakhalin are overwhelmingly flat.

/84/ The greatest depth in the Sea of Okhotsk lies in the south, where a channel more than 3,000 meters deep stretches parallel to the Kurils; the greatest depression here is as much as 3,374 meters. From this deep sea valley the bottom of the sea rises steeply to the barrier of the Kurils, and then on the other side of these islands, it declines sharply to the long Kurils deep sea graben which is more than 8,000 meters deep. Toward the north, on the other hand, the bottom of the sea rises gradually. There the 200 meter-deep line runs along the coast at a distance of from 150 to 200 kilometers.

The main part of the water balance of the Sea of Okhotsk is equalized by the continual influx from the Pacific Ocean, just as in reverse there is a constant outflow from the sea to the ocean; also a limited exchange of water with the Sea of Japan via La Perouse Strait.

Map of the Sea of Okhotsk:

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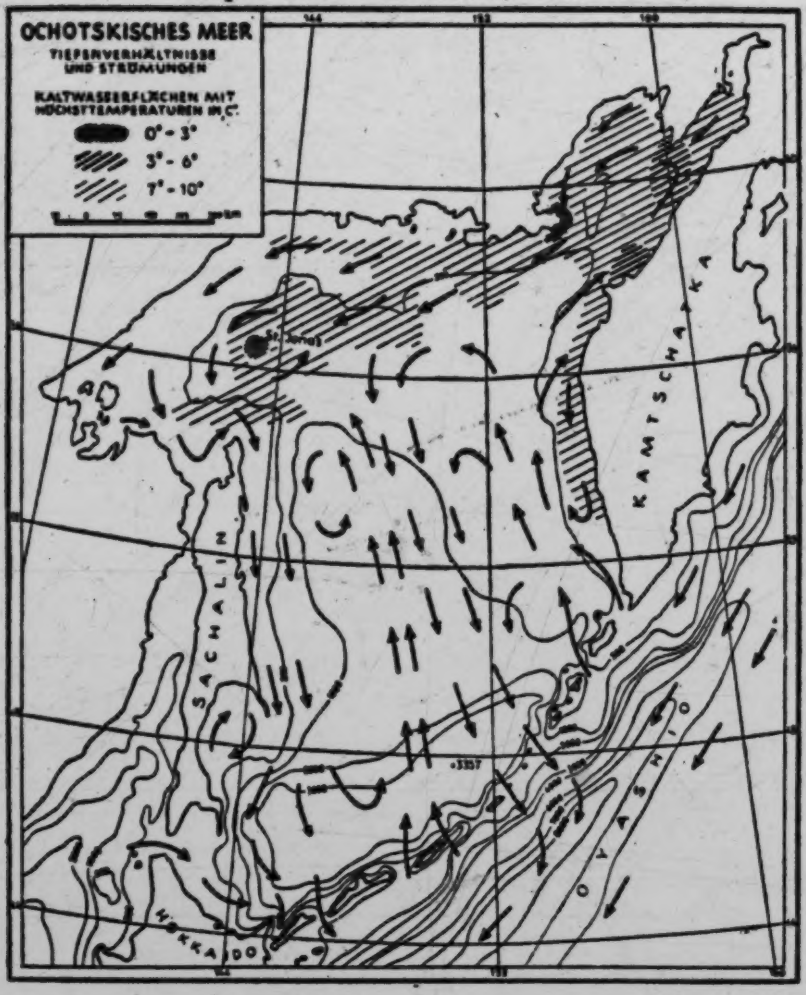

Depths and Currents; Cold water areas with highest temperatures in degrees centigrade

takes place. The Pacific surface water enters the Sea of Okhotsk through one series of sea connections between the Kurils, while through others there is a surface flow of water from the sea to the ocean. At the deeper levels of water the exchange works in the opposite direction from that on the surface. Since only four of the sea straits between the Kurils are over 500 meters deep, and of these only two are over 1,000 meters deep, and since, in addition, their breadth is very slight, the exchange of deep water is kept within very limited borders and has as good as no influence in the sense of an equalization of temperature between sea and ocean. In this the bulk of the water layers of the Sea of Okhotsk, which lie more than 1,000 meters deep, cannot be drawn at all into an exchange.

Even though the picture is somewhat confused by the numerous openings and their various current directions, a clear sea current can nevertheless be recognized within the Sea of Okhotsk; this sea current moves counterclockwise along the coast. It enters the Sea of Okhotsk south of Kamchatka Peninsula and moves toward the north along the west coast of this peninsula; in the north, however, it is pushed somewhat off the coast by a cold water stream coming from the north. In Shelekhov Bay the current turns and follows the coast toward the west. This turn in the bay and the slanting stretches following the coast lead to the presence of cold water upwelling /Auftriebwasser/, which is drawn into the general current; this general current then follows the west coast farther, washing up around St. Jonas Island. Strengthened by the influx of water from the Amur, the current then runs along the east coast of Sakhalin toward the south, where it unites with the water stream coming from La Perouse Strait, and then again reaches the Pacific Ocean through the southern gaps of the Kurils. The currents in the middle of the Sea of Okhotsk fit into the framework of the main current described.

Tides appear on all of the Sea of Okhotsk. The tidal wave comes from the Pacific Ocean and enters the area of the Sea of /85/ Okhotsk through the gaps between the Kurils; the tidal wave is strongest in the middle of the island chain and then spreads out almost equally. The range has a mean of 4 meters in the open parts of the coast, but in the interior of the great bays it grows strong and reaches, for example, 11.3 meters in Gizhiga Bay.

The long, cold winter with its raw winds blowing from the mainland causes a marked cooling off of the water; the short and cool summer with predominantly heavier clouding and numerous fogs brings

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only a slight warming up; and accordingly the temperature of the surface water layer rises only a little above 10° in the summer. This seasonal rise in temperature applies, however, only to the water levels to a depth of at most 30 to 50 meters, while the layers lying under this have a constant temperature, which is negative /in Centigrade/. Investigations have shown that the water temperature at first gradually decreases as the depth increases and then with a leap the water temperature reaches 0° already at a depth of 15 meters. Then the temperature lowers only very slowly, reaching -1.5° at depths from 75 to 150 meters. Then follows a slow rise in temperature until the bottom of the sea, where a temperature of 1.2° dominates in the north and one of 2.5° dominates in the southern part of the sea. With the formation of ice and the crystallization of salt, the surface waters can become so thick that they sink toward the depths.

Characteristic of the Sea of Okhotsk are constant cold water zones, which are a permanent phenomenon in certain areas and which give these parts of the sea a special stamp. These cold water zones are related genetically to the current conditions and can be explained as upwellings /Auftriebswasser/. Three such regionsshould be named above all: the one off the Yama Bay in the area of the Yamsk Islands; the one around Jonas Island; and the third in the open sea approximately between the north end of Sakhalin and the Shantar Islands. Within the first two cold water areas mentioned, the water temperature never rises above 1°, and in areas around these places it always remains 3° to 5° below the mean temperature of the sea. Off the entrance to the Penzhina Bay the water temperature even in high summer is never higher than 5° to 6°. The current emptying into the Shelekhov Bay turns here within the bay again toward the exit and draws upwelling /Auftriebswasser/ from the smaller bays toward it; the appearance of the latter off the Yama and also the Penzhina bays is especially striking. From the Yama Bay the cold upwelling stretches toward the southwest and thus in the direction of the general current; in this the upwelling water gradually and partially warms up on the surface or in part also sinks down, but certain cold water stretches are nevertheless recognizable. The sea bottom elevation of the massif around Jonas Island, it is assumed, causes /86/ again the rise of cold water layers, which are very characteristic of the environs of the island. The water is never warmer than 1° in the vicinity of the island and never more than 1° to 3° a bit farther off the island. The cold water zone lengthens from Jonas Island then toward the south, where there is still further

cooling off between the Shantar Islands and the north end of Sakhalin; the cause of this is regarded as the strengthening of the general current by the addition of the water masses of the Amur. 132 133

The cold water zones are noticeable in summer because of the heavy formation of fog, which becomes heavier in relation to the contrast between the air and the water temperatures. For weeks in the summer there often lies over these regions thick banks of fog, which clear up only with bad weather. Nowhere in the Sea of Okhotsk is the fog so constant and so thick as in the area of the Yama Bay and around Jonas Island. The winds contribute to the spreading of the fog, and accordingly it also appears over regions with relatively warm water. But the source of the fog is clearly the cold water areas, where new masses of fog always form. These masses of fog are characteristic for the entire north of the Sea of Okhotsk and hinder sea traffic.

Since the Sea of Okhotsk projects far into the mainland mass of the continent--the low winter temperatures are, of course, known--a solid ice covering forms already in December along the entire coast from the Strait of Tatar in the south to Penzhina Bay in the north. In February the entire northern half of the sea is covered with floating ice, and the ice floes are often shoved together into a closed covering until a storm again tears them apart. Only by the middle of June is the bulk of the sea entirely free of ice. Further discussion of the ice covering and its significance for man is given in the section on sea transportation.

The salt content of the Sea of Okhotsk is slighter than in the neighboring seas and varies between 32 percent and 32.5 percent. The salt content increases with the depth and reaches 33.5 percent to 34.5 percent at the bottom of the sea. 133

The Bering Sea

The Bering Sea is the most northerly border sea of the Pacific Ocean, from which it is separated by the islands of the Aleutian chain. However, the closing between the Bering Sea and the Pacific is not so shut off as is the case with the Sea of Okhotsk, since between the Commander Islands and the beginning of the Aleutian chain there is a connection which is up to 342 kilometers wide and up to more than 3,000 meters deep. Accordingly an exchange of water up to this depth can go on unhampered. The connection via the Bering Strait /87/ /Map of the Bering Sea:/ /88/ to the northern Polar Sea has, on

Map of the Bering Sea:

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133 the other hand, a width of only 35 kilometers and a slight depth of up to 59 meters; accordingly the influence of the cold polar water from the Chukchi Sea is limited to a minimum. As a result of this there is an overwhelming equalization of the Bering Sea with the Pacific Ocean, which, however, has different facets according to the structure of the sea basin.

The Bering Sea can be divided into two parts according to the relief of the sea floor. The northeast as far as a line from approximately Cape Navarin on the Russian side to Unimak Island off the west end of the Alaskan peninsula rests on a mainland shelf, and everywhere has depths of less than 200 meters. This part comprises 44 percent of the entire area of the sea. From the above-mentioned line the sea floor declines very precipitously toward the south to depths of from 2,000 to 4,000 meters; thus this part of the Bering Sea is a deep sea basin. The portion of this part in the total area of the sea is 43 percent. The remaining 13 percent belongs to the sloping of the mainland parts to deep sea basins with depths of 200 to 1,000 meters. The greatest depth in the Bering Sea is 4,100 meters. (205)

205. Suslov, S.P., Fizicheskaia geografiia SSSR /Physical Geography of the USSR/, (Moscow-Leningrad, 1947), p. 226

The varying relief of the floor of the Bering Sea with the steep rise from deep sea basins to the shelf produces very complicated current conditions. The main stream of the Pacific water enters the Bering Sea through the main gate between the Commander Islands and the Aleutian Islands and turns toward the northeast in the direction of the Bering Strait. However, upon hitting the border of the shelf the current divides into an eastern and a western branch, with the eastern one remaining within the deep sea basin and ending in a circle-shaped current moving counterclockwise. The western branch also remains in part in the deep sea basin, and in the central part also becomes a circle-shaped current, moving, however, clockwise. A part of this western branch, however, reaches the mainland coast in the west and in Olyutorski Gulf draws up, to the surface cold water /Auftriebswasser/ in passing by which continues along the coast of Kamchatka toward the south. It leaves the Bering Sea with a strong current between Kamchatka Peninsula and the Commander Islands, and then in a relatively cold state unites with equally cold water coming from the Sea of Okhotsk, and becomes the Oyashio /Okhotsk Current/.

A part of the entering mainstream of the Bering Sea enters the shelf 130
and with moderate speed draws in a northward direction over the Bering Strait into the Chukchi Sea. This current is reinforced by another Pacific current that presses in over the Unimak Sea strait (west of the island of the same name), immediately contacts the shelf and then flows alongside the west coast of Alaska along with the central current, and then via the Bering Strait into the Polar Sea. The accompanying sketch map serves to orient the reader as to further details on the currents of the Bering Sea.

For the most part the surface water temperature depends upon 132
the general climatic conditions. Located in high latitudes /89/ and 133
situated in between the mainland mass of northeast Siberia and northwest America with their long and servere winters, the Bering must be designated as a very cool sea. In the summer the surface waters along the shelf areas manage to warm up only to a limited degree and then, apart from the warm currents, reach temperatures of only 7 to 9 degrees. The surface water in the deep sea basin is as a rule warmer and reaches a warmth of from 10 to 11 degrees. It is of special significance and worthy of note that the surface waters of the Bering Sea, because of the permanent inflow of warm water from the Pacific throughout the whole year, cause the temperature of the Bering Sea to have a year-round temperature higher than that of the air. A. A. Borisov (39)

39. Borisov, A. A., Klimaty SSSR /The Climate of the USSR/, (Moscow, 1948), p. 122.

has published the following table:

Month	Water Temperature	Air Temperature
January	-1.0°	-3.8°
April	1.6°	-0.9°
June	10.3°	8.5°
October	6.9°	4.3°
Annual	4.7°	2.1°

Because of the exchange of deep waters with the Pacific Ocean, the deep-water temperatures of the Bering Sea are completely different from those of the Sea of Okhotsk. From a summer surface

temperature of 10°, at a depth of 30 to 40 meters, the temperature gradually drops from 4° to -6°. At 100 to 150 meters lies the coldest water level, with a temperature of from 0.5° to 1.0°. Below this depth, at from 200 to 500 meters, the temperature again rises to as high as 3.5° and then gradually drops again to from 1° to 2° at depths from 2,000 to 3,000 meters. The coldest surface water is found in the Olyutorski and Anadyr' bays. Both are characterized by constantly rising deep waters and especially strong clouding. The cold, southward-flowing current along the east coast of Kamchatka also creates thick fog banks, which are a special feature of the Kamchatka coast.

The salt content of the Bering Sea is, in general, high, reaching 32 percent at the surface and rising at a depth of 3,000 meters to 34.5 percent. It is only in the extreme north that the salt content diminishes, becoming at this point 27 percent, because of the influx of fresh water from the Anadyr' and Yukon.

During the winter all along the coast of the northern part of the Bering Sea, a solid ice sheet forms, in front of which is a broad area covering with floating ice floes, which also cling to the east coast of Kamchatka. The edge of the floating mass of ice runs somewhat south of the rim of the ice shelf and is parallel to the shelf. Off Anadyr' Bay and the entrance to the Bering Strait the floating ice accumulates and becomes thick pack ice. The warm water current causes the ice to melt very early, however. By the middle of May it remains only along the Asiatic coast, /90/ and in June it still remains only at Anadyr' Bay. By July the Bering Sea is completely ice free, and the ice edge recedes back to the Polar Sea.

The Sea of Japan

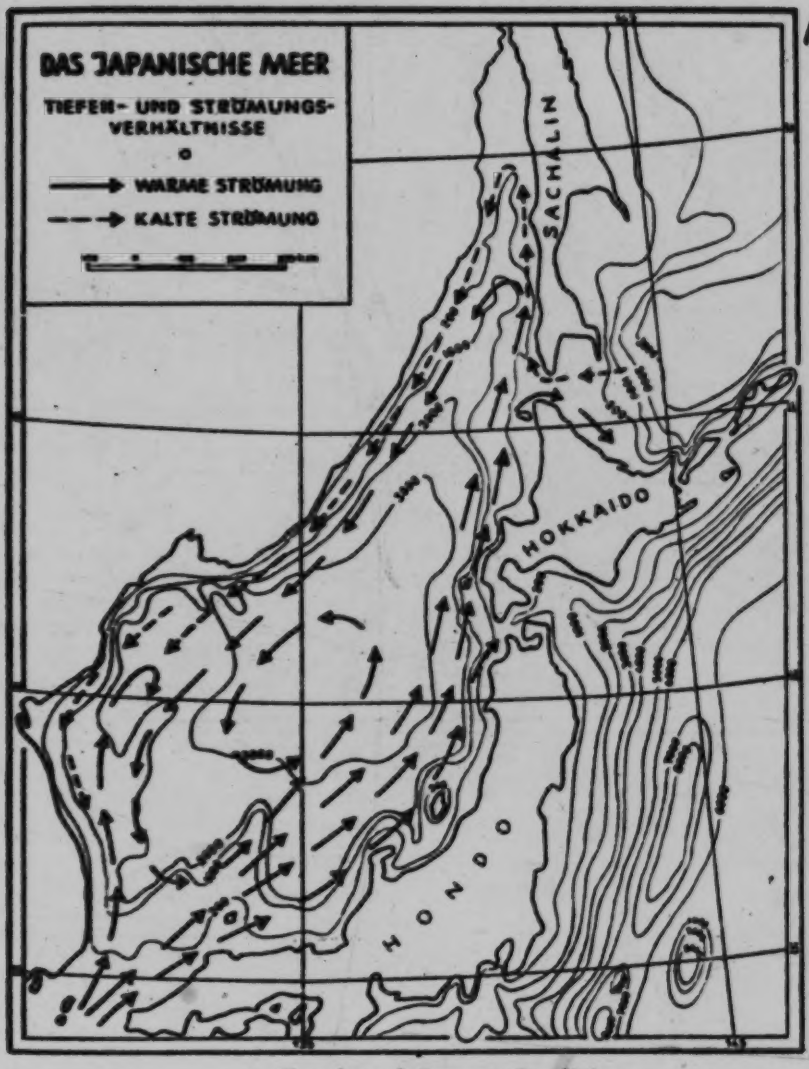
The Sea of Japan stretches between the Asiatic continent to the west and the islands of Sakhalin, Hokkaido, and Hondo /Honshu/ to the east. It is connected with the East China Sea by way of the Korea Strait (depth: 167 meters), with the Pacific Ocean by the Straits of Tsugaru (106 meters) and Shimonoseki (30 meters), and with the Sea of Okhotsk by La Perouse Strait (55 meter) and the now blocked-off Tatar Strait (8-10 meters). In view of these relatively shallow connections to the neighboring sea areas, the Sea of Japan stamps itself as a clear sea basin, of which more than half is at a depth of 2,000 meters and approximately one quarter has a depth of 3,000 meters. The descent of the sea floor to a depth of 2,000 meters is far more

abrupt from the Asiatic continent than from the east. After the Korean Strait in the south and the Tatar Strait to the north the sea floor rises gradually. 133

If the Sea of Japan presents its own sea basin, it also displays surface current conditions characteristic of a peripheral sea. The warm Kuroshio Current/Japan Current/, originating at tropical latitudes, flows from the south to contact the Sea of Japan at the Korea Strait. Designated by the Japanese as the Tsushima Current, this stream of warm water divides itself at the Korea Strait into two arms. The eastern, which is wider and flows more rapidly, flows in a northerly direction along the coastline of the Japanese islands, while the weaker western branch flows in a northerly direction somewhat parallel to the Korean coast. The latter soon comes up against cold waters due to a water current coming from the north along the coast. In part the waters mix; however, for the most part, the waters of the western branch of the Tsushima Current are pushed eastward from the coast, gradually turning east and then southeast, and they unite with the still relatively warm general stream of the former Tsushuma Current which is on its way back and which ends in a circular current moving counter-clockwise.

The warm mainstream of the Tsushima Current, which stretches northward along the coast of the Japanese islands, gradually loses its strength. Part of its current flows out through the Tsugaru Strait; a further part is later lost in the north through La Perouse Strait into the Sea of Okhotsk, while the remaining current presses further north in the direction of the Tatar Strait. Emerging from La Perouse Strait out into the Sea of Okhotsk, it now strikes a cold current. At first the warm current is able to deluge the cold current, and is able to advance as far as the southwest coast of Sakhalin where its tempering influence is still felt. But then it weakens at the coast /91 Sketch Map of the Sea of Japan:/ and is turned farther north. The shallow depths of the Tatar Strait act as a barrier and soon put a halt to any further northward movement, so that the relatively warm current turns west and then southwest, in which process it pulls cold water along, which, because of its higher salt content, can be identified as upwelling water /Auftriebwasser/. The cold water current runs along the coast until /92/ it reaches Korea. It reaches Vladivostok, where it contributes significantly to the tempering of the water and air temperatures there, and then it moves along the coast of Korea toward the south, where it encounters the above-mentioned western branch of the Tsushima

Sketch Map of the Sea of Japan:



Depth and Current Conditions

——→ warm current

- - - -→ cold current

•/33 Current and there finds its end. On the way, the cold water current is strengthened by upwelling water, which is noticeable along the coast of the Sikhote-Alin', especially south of Ol'ga Bay, and which is distinguished not only by its greater coolness but also by its higher salt content. Where the cold water current encounters the warm current, a cold water front forms which, however, does not always remain in the same place in the course of the year. In winter the cold current appears to attain a greater strength and moves the cold front to the south, while in summer the cold front again withdraws to the north. (116)

116. Lautensach, H., Korea, (Leipzig, 1945), p. 118.

/32 /38 Because of the fact that the Sea of Japan extends so far from north to south--the Tatar Strait lies somewhat below the 50th latitude and the Korea Strait below the 35th latitude--the surface water temperatures in the various parts of the sea and in the course of the year are very different. In the area of the Korea Strait the surface water temperature varies between 26° and 14°, in the region of the Tsugaru Strait it varies between 24° and 5°, in La Perouse Strait it varies between 22° and 1.4°, and in the northern part of the Tatar Strait it varies between 17° and -2°.

The temperature of the water sinks very rapidly as the water gets deeper. In July, 1928, in the middle of the sea the temperature at the surface was 20.4°, at a depth of 50 meters it was still 3.4°, and at a depth of 100 meters it was only 0.8°. The last-mentioned temperature remains at depths of 500 meters and more. Nowhere, even at greater depths, has a lower temperature been determined. (205)

205. Suslov, S.P. Fizicheskaia geografiia SSSR /Physical Geography of the USSR/. Moscow-Leningrad, 1947.

/33 In winter the Tatar Strait is regularly closed by a solid ice sheet to approximately 50° N. Otherwise such an ice covering is formed only in the bays of the Soviet Russian Maritime Krai; this applies, however, to bays as far as Vladivostok, whose harbor can be kept open during the three winter months only with the help of ice-breakers. Floating ice, however, can be encountered regularly every winter in the northern part of the Sea of Japan as far as a line approximately from the middle of the island of Hokkaido to the Korea Bay.

Tides are noticeable in all the Sea of Japan, but not in great measure. The tidal wave enters the Sea of Japan through the broad Korea Strait but then spreads so quickly that it is observed at practically the same time on all coasts. The range between high and low tide decreases the farther away one gets from the Korea Strait. Thus in Pusan it is still 2.10 meters, at the mouth of the Tumen it is only 0.30 meters, but it rises in the narrows of the Tatar Strait to as much as 2.70 meters.

The current conditions and the various water temperatures affect the neighboring coastal regions in a remarkable fashion. On the mainland side the winters are under continental influence /93/ and bring a high degree of coldness. This applies especially to the Soviet Russian mainland coast and to Sakhalin. As a consequence the appearance of ice off the mainland coast extends farther to the south than it does in the eastern part of the Sea of Japan. Even in late spring the cold current brings in floating ice floes along the coast toward the south. In summer the cold coastal current along with the predominant east and southeast winds temper the air temperatures of the mainland coast. It is the source of the fog forming along the entire coast, especially during the summer; for the thickness and duration of the fog are greater in relation to the temperature contrast between the air and the surface of the water. This applies especially to the sea areas off the Soviet Russian coast, which with southeast winds predominanting are enveloped in thick, cool fogs.

The salt content of the Sea of Japan is greatest in the south where water with a salt content of 34.56 percent enters through the Korea Strait; the salt content is smallest in the Tatar Strait, where it amounts to 31.96 percent. In winter the salt content of the surface water rises and can reach up to 35.0 percent. The reason for this can be found in the slightness of the winter rainfall and in the decreased inflow of fresh water from the rivers.

A distinguishing mark of the Sea of Japan, important for sea transportation, is the frequent appearance of storms, which are especially numerous in spring and fall. They appear in the train of cyclones, which come from the mainland or the East China Sea and make use of the Sea of Japan as a route to the northeast. The number of these storms is not so great in the summer as in the transitional seasons, but they are of greater violence, especially in late summer when equatorial whirlwinds press into this region as typhoons and develop great wind velocities. In winter, on the other hand, the con-

[i.e. in the Sea of Japan--Analyst]

Water Transportation and the Hydrographic Conditions

The development of water transportation has been favored by the fact that the most important regions economically belong to a single river area, that of the mighty Amur. Only the western part of Transbaykal has a water network of its own, but in its most important sections economically, western Transbaykal, too, is encompassed in a single river system, that of the Selenga.

The Amur is the largest river in the Far Eastern regions. It arises from two source rivers, the Shilka and the Argun, and the Shilka in turn is also formed by two source rivers, the Onon and the Ingoda. The longer of these is the Onon. If the Onon is taken as the real source river of the Amur, then the Amur has the great length of around 4,330 kilometers. However, even the real Amur from Pokrovka, where the Shilka and Argun converge, to the mouth has the considerable length of 2,846 kilometers. The entire river /drainage/ area of the Amur attains the immense size of 2,054,510 square kilometers. Of the rivers in the entire system which are at the disposal of the Soviet Union, 7,079 kilometers are designated as navigable for steamers, and anothers are designated as navigable for rafts.

The upper course of the Amur is 901 kilometers long and extends from Pokrovka to Blagoveshchensk, i.e., to the mouth of the Zeya. On its left side the Amur receives here the Amazar, Oldoy, and the Zeya. Great heights, which are covered with coniferous forests and which are in part rocky, follow the course of the Amur along the upper part. Below Dzhalinda the heights retreat. On broad terraces cultivated stretches of land appear with numerous settlments. The river bed becomes wider. Flat sand islands emerge here and there. Tortuously and slowly the river winds along. The middle course of the Amur stretches from Blagoveshchensk to Khabarovsk, i.e., from the mouth of the Zeya to the mouth of the Ussuri; it is 992 kilometers long. Great and important tributaries flow into this section of the Amur: the Bureya comes in from the left and the Sundari and Ussuri from the right. The left bank here is for the most part formed from the flat Zeya-Bureya plain, while the right bank, which is Manchurian, appears hilly. The width of the river reaches 1 to 3 kilometers and more, but is pressed together to approximately 500 meters as it breaks through the Bureya Mountain Range. However, below Khabarovsk the 953 kilometer long lower course of the Amur stretches out into an extraordinarily wide lowland river with numerous arms and islands.

133 Here, too, the left shore is mostly flat and swampy; the right, on the other hand, is hilly and drier. Now and again mountain chains also appear /190/ on both sides of the river and force its masses of water into a closed bed. The last part of the river is closed in on both sides by mountains, although the river still reaches a width of 5 to 10 kilometers in places.

[505] The Amur is navigable for its entire length, and its source rivers, too, are still regularly traveled by steamers, the Shilka being traveled as far as Sretensk and the Argun as far as Olochi. The speed at which the Amur flows is varying and depends on the drop at any one spot. In this the river has to overcome three steps: the Great Khingan, the Bureya Mountain Range, and at the end the Sikhote-Alin'. The mean velocity of the Shilka and of the upper Amur is 5.5 to 6 kilometers per hour, that of the middle Amur is 4.2 kilometers, and in the lower course of the Amur the mean velocity is 3 kilometers and less. The conduction of water varies greatly, especially in the upper course, since here the source rivers, especially the Shilka, dry up almost entirely in the period of less water--and here this period is the winter. At this time the Shilka conducts only approximately 8 cubic meters per second at Sretensk, while at the same place it conducts 142 cubic meters when the water level is normal, and 420 cubic meters when the water is high.

The following table shows what quantities of water the Amur carries along in its various parts and the differences in the water fluctuations at the various localities:

Localities	Length of this section of the river in kilometers	Drop of this section of the river in meters	Water conduction, Annual mean in cubic meters per second	Minimum in cubic meters per second
From Pokrovk--				
Albasin	238	55	1,200	125
Chernyayevo	190	49	1,500	165
Kumara	213	39	1,700	200
Blagoveshchensk	226	33	1,800	220
Poyarkovo	164	17	4,000	550
Innoken'yevska	130	17	5,000	700
Yek. Nikol'skaya	252	36	5,500	850
Mikh. Semenovskaya	190	14	8,500	1,500

(Table continued on following page)

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Localities	Length of this section of the river in kilometers	Drop of this section of the river in meters	Water conduction. Annual mean in cubic meters per second	Minimum in cubic meters per second
Khabarovsk	258	15	10,000	1,800
Komsomol'sk	360	16.5	11,100	2,000
Bogorodskoye	410	12	11,700	2,100
Mouth	170	4.5	12,200	2,200

Corresponding with the water conduction, the water horizon fluctuates more in the upper parts of the river than in the lower parts. The range of the annual water fluctuation is 9.7 meters at Sretensk, a mean of 6 meters at Khabarovsk, and only a little more than 2.40 meters at Nikolayevsk. However, the high water which appears very suddenly as a result of downpours of rain in the summer, varies greatly from year to year. The floods from the mighty /191/ river area often break so quickly that they cause great destruction. The largest known flood was in 1872. At Blagoveshchensk the water rose 10 meters in a short time, and in the narrow break-through valley of the Bureya Mountain Range the water even rose 15 meters. The water masses pouring out wildly and in an unruly fashion tore along with them numerous settlements near the river and their people, animals, and property. The year 1928, too, was distinguished by an extraordinarily heavy high water, which brought the city of Blagoveshchensk into a state of great distress.

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Because of the ice covering the navigable period of the Amur is limited to the summer months. The mean duration of the ice-free period is 155 days at Sretensk, 170 days at Blagoveshchensk, 185 days at Khabarovsk, and again only 160 days at the mouth of the Amur. On the middle Amur the southern location makes itself felt, and at Khabarovsk the effects are felt of the emptying in of the great rivers coming from the south, the Sungari and the Ussuri. These two rivers become free of ice earlier than the Amur and bring warm water into the Amur. In the periods of navigability the view is hindered in the mountain regions by thick morning fogs which force the ships to travel more slowly or even to stand still. Then rapids and stony areas constitute a hindrance in the upper part, and sand banks in particular constitute a danger for almost the entire course of the river. The sand banks consist mostly of soft, slimy masses of sand, which form in the river bed as

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longish heaps which are constantly being added to; and when the water is low, these sand banks also often emerge as islands. The lower Amur has no hindrances and can be used at all times by ships with a depth of up to 3 meters, and on the last 420 kilometers of the river it can even be used by ships with a depth of 6 meters and more. If broad, flat sand bars did not close off the entrance at the mouth of the river, sea-going ships could travel 100 kilometers into the Amur. The annual changes of the water conduction causes the ship traffic on the upper part of the Amur to be such that from May to August ships with a depth of 1.5 meters can go as far as Blagoveshchensk and ships with a depth of somewhat more than 1.0 meters can get as far as Sretensk on the Shilka without hindrance. In September, on the other hand, travel as far as Blagoveshchensk is dangerous for ships with a depth of 1.20 meters and travel as far as Sretensk is dangerous for ships with a depth of 0.90 meters. These limitations apply to through traffic and do not exclude the possibility that in individual parts of the river, where shallow places do not hinder passage, larger ships could also be employed without limitations in local traffic.

The Amur as the main water vein in the entire land receives its great importance for transportation only through its numerous and important tributaries. These are in large measure navigable by ships, and over even larger lengths navigable by rafts, and thus open up wide areas of the entire province.

The Shilka is the main source river of the Amur and drains the water from an area of more than 210,000 square kilometers. Its source river, the Ingoda, is navigable by rafts for 455 kilometers, and, when the water is high, it is hypothetically navigable by ships from approximately Chita on. The Ingoda itself and its right tributaries come from richly forested areas and bring /192/ to the Amur wood above all. The Onon is navigable by rafts for 550 kilometers. In its upper course it is a steppe river, and only in its lower course does it flow through forested region.

The Argun, with a total length of 1,580 kilometers, drains an area of 260,000 square kilometers. It rises in the Great Khingan in Manchuria, where it bears the name of Hailar, and it receives also numerous tributaries from the right. Thus it never suffers from a water shortage. On the other hand mountains appear right on the river at its lower end and produce various strong rapids. The bed is stony and not uncommonly is filled with large blocks of rock, which in many cases lie across the river like chains, making it very difficult for ships to

get through. Although its middle course along the border is 200 to 300 meters wide and has sufficient depth, which in places it up to 8 meters, the Argun is regularly traveled only on the last 54 kilometers. The floating of wood, on the other hand, is very active on the entire course of the river.

The Zeya with a length of 1,225 kilometers and a width of up to 2 kilometers, is the most important left tributary of the Amur. In its upper course it has a sharp drop, and only below its breach through the Tukuringra Mountain Range does it quiet down. The monsoon air masses, which are forced to rise in the mountains in the area around the upper course of the Zeya, bring especially heavy rainfall here. The water conduction reacts very exactly to this rainfall, and thus, according to the downpours of rain, high waters arise and the river then again and again goes over its normal banks. Thus during almost the entire summer the Zeya conducts a great deal of water and is hypothetically navigable for medium-sized steamers for 950 kilometers and even 1,100 kilometers for smaller steamers. Zeya-Pristan' (harbor) is the end point of the regular steamer traffic. Here the goods are stored up during the summer in large warehouses in order then in the winter to be taken by sled into the gold districts on the upper course of the Zeya and on its tributary, the Gilyuy. The new Baykal-Amur Railroad crosses the river at Zeya-Pristan'. From the left there flows into the Zeya the Selemdzha which is 690 kilometers long and which is navigable by ships as far as Norsk.

Water Conduction of the Zeya

Locality	Annual Mean in cubic meters per second	Minimum in cubic meters per second
Zeya-Pristan'	1,100	22
Tyda Estuary	1,350	45
Selemdzha Estuary	2,100	105
Mouth	2,350	125

The Bureya, the next large left tributary of the Amur, is 740 kilometers long and up to 700 meters wide on its lower course. The upper and middle course of the river flow through mountainous regions and conceal numerous obstacles. Thus the river, which is rich in water, is navigable only on its last bit. When /193/ the water level

133 505 is high, however, steamers get over 345 kilometers along the river as far as Chekunda, indeed on occasion as far as the mouth of the Unalta. The Bureya is important as a supply route for the gold regions on its upper course.

The Zeya and Bureya bring a great deal of wood to the Amur.

Water Flow of the Bureya

Locality	Annual Mean in cubic meters per second	Minimum in cubic meters per second
Niman Estuary	392	8
Ushumun Estuary	579	11.5
Talakan Estuary	980	19
Daldakan Estuary	1,025	19.5
Mouth	1,067	20

The Ussuri River is on the border toward Manchuria. Its length, including that of its source river, the Daubikhe, is more than 900 kilometers, its width fluctuates between 100 and 1,000 meters. It is navigable by ship for its entire course, and it is regularly traveled even though sand banks and other shallows offer obstacles on the winding course. The Ussuri line is the best opened up in terms of transportation, for the main railroad and a highway also run in the direction of the river.

501 Water transportation in the Amur area is mostly served by small steamers with a mean of 500 indicated horse power and with a carrying capacity of their own of 250 tons. However, recently numerous larger vessels have also been employed which have been specially built for service here. As a rule wide, shallow-draft barks are used to transport goods; these barks have a carrying capacity of up to 800 tons and are mostly put together in trains of barges. The number of river steamers and tug boats in the 1930's was more than 200 and has since probably been enlarged. In addition to the transporation fleet, there is also an Amur war fleet, which has its seat in Khabarovsk and which consists of river gun boats with a size of up to 1,000 gross register tons.

133 505 The main part of Transbaykal to the west is drained by the system of the Selenga. The Selenga comes from Mongolia and rises there from the two rivers, the Ider-Gol and the Muren-Gol. The length of the Selenga is 1,272 kilometers, its river area covers 511,464 square kilometers. Not far from Kyakhta it enters the territory of Transbaykal,

where it flows for another 414 kilometers. In this part the Selenga is 200 to 450 meters wide and has a mean depth of 1.6 meters. The mean velocity reaches 5.6 to 8.5 kilometers per hour. Apart from a bar off the mouth, which makes entrance into the river difficult, there are no large hindrances here, and accordingly the Selenga can be designated as completely navigable in this part. Occasionally smaller steamers travel 480 kilometers into Mongolia during the high water period in the summer. The period when the river is navigable lasts exactly half a year. The water level during this period fluctuates approximately 2 meters as a mean. Regular steamer shipping /194/ has developed as far as Ust'-Kyakhta. The tributaries are traveled as needed. The largest tributaries are the Chikoy, which is more than 740 kilometers long and is navigable by ship for 249 kilometers; the Khilok, which is 742 kilometers long; and the Uda, which is 403 kilometers long. The center of water transportation is Ulan-Ude, where there is also a dockyard for steamers and barks. In connection with the Selenga there is also water transportation on Lake Baykal and on the Angara as far as Irkutsk. The total number of steamers here in 1930 was 87, and the total number of barks was 185 in contrast to only 13 steamers and 18 barks in 1912.

The importance and the capacity of water transport on the Amur exceeds that of the Selenga by several fold. The following table gives a comparison:

Water Transport 1939
in 1,000 tons

	Total	Oil	Wood		Grain	Mineral Construction Materials	Salt
			By ship	By raft			
Selenga	200	7	7	91	45	14	1
Amur	1,305	191	11	645	186	65	13

Air Transport

Air transportation was early introduced into the entire Far Eastern region to overcome the great distances. The main line coming from Moscow leads via Chita and Khabarovsk to Vladivostok. Beside the direct line, flights are made along this stretch to the following localities: Ulan-Ude, Chita, Nerchinsk, Mogocha, Skovorodino, Tygdinsk, Svobodnyy, Arkhara, Birobidzhan, Khabarovsk, Bikin, Iman, Voroshilov,

132 654 service and help from ice-breakers, could very much expand the usefulness of the parts of the sea threatened by ice. And here the Soviet government has accomplished excellent work worthy of recognition.

505 The center of all the coastal traffic is Vladivostok, from which all lines start. Sea traffic is most active in the most southerly part of the coast as far as Nikolayevsk on the Amur. However, the more northerly localities are also visited regularly several times a year. The longest line leads to the mouth of the Kolyma, whence a trip by one or even several steamers at the same time is undertaken every year. Of the 2,021,000 tons of goods turned over in the harbor of Vladivostok (1935), 864,000 tons came from coastal traffic.

The following figures on distances may explain transportation conditions:

Coastal Steamer Lines

Distances from Vladivostok

Sovyetskaya Gavan'	1,075 kilometers
Aleksandrovsk on Sakhalin	1,335 kilometers
Nikolayevsk on the Amur	1,575 kilometers
Okhotsk	3,210 kilometers
Petropavlovsk	2,785 kilometers
Anadyr'	4,640 kilometers
Mouth of the Kolyma	5,200 kilometers

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/205/ B. SPECIAL SECTION

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/207/ THE PROVINCES

General Division

• 133 As the general survey has already shown, the geographical conditions of even a large division of the entire region fall into 1

1 [Ct. cat. 133, p. 232 for continuation — Analyst]

132

	Final Establishment of the Ice		Final Becoming free of Ice		Mean number of Days with Ice*
	Earliest	Latest	Earliest	Latest	
Cape Chaplin	27 Oct.	8 Nov.	20 June	15 July	240
Sea south of Markovskaya Bay	25 Oct.	28 Nov.	12 June	27 July	230

* The mean number of days with ice includes drift ice and established ice.

133 individual natural areas. In the following consideration these natural areas are again divided into individual provinces, with the relief serving as the principal basis for the division. Given the size of these individual provinces it is obvious that in addition to many common traits in a given province there are also differences in the individual parts of the province. Accordingly, a further subdivision could be carried out without difficulty. However, this has intentionally been forgone for reasons of clarity.

The varying treatment of the individual provinces and their parts is a consequence of the uneven knowledge of many parts of the land. In going through the Russian literature, one can again and again determine that in addition to well-known regions there still exist extensive areas which require exact investigation. In contrast to the individual research prevailing in the Czarist period, Soviet Russian science has gone over more to a systematic penetration. However, with the great size of the entire land, much still remains to be done.

Transbaykal is divided by the Yablonovyy Ridge into two provinces: according to Obruchev, these can be designated as the western or Baykal province and the eastern or Nerchinsk Daur province. Toward the north the individual mountain ridges come together to form extensive plateau areas. To this category belongs the Vitim Plateau, which is grouped as a unit with the mountain forest areas adjoining it to the north and equipped with an equally raw climate. The mountain country between Vitim and Olekma and the Olekminsk Stanovik contitute the transitional area to the actual Amur country. Here the Zeya and Bureya mountain country marks the border of the economically important Zeya-Bureya plain. Again accompanying the lower Amur is a depression, which flows together with the Amgun area. The Sikhote-Alin' and the Ussuri-Khanka depression constitute individual

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provinces of the Ussuri country. The division of the remaining regions follows of itself: the island of Sakhalin, the region of the Amgun and Uda, the Okhotsk coastal country, the provinces of the extreme northeast and of Kamchatka Peninsula (see map). A short survey of Lake Baykal precedes the description of the provinces.

/208/ Lake Baykal

Adjoining Transbaykal on the west is Lake Baykal, which belongs among the most interesting lakes in the world. It has a water surface of about 23,000 square kilometers, a length of 636 kilometers, and its greatest width is 79 kilometers. The smallest width, between the mouth of the Buguldeyka and the delta of the Selenga, is only 25 kilometers. The lake lies on the mean at 453 meters above sea level, but the lake floor sinks down 1,741 meters, thus reaching 1,288 meters below sea level and so making Baykal the lowest internal lake in the world. The mountains right on the shore rise more than 2,000 meters, and, as a result, there are height differences of more than 3,700 meters within a very small area. From this the tectonic formation of the lake can also be recognized. This occurred through the inroads of four grabens shoved approximately toward one another; of these grabens, the most southwesterly one runs in the Sayan direction and the others, on the other hand, run in the Baykal direction. This explains the long swung, arc-shaped form of the lake basin. In terms of time the formation of Lake Baykal was related to the graben breaks of Transbaykal and must have occurred after the middle Tertiary. The lake acquired its present form and shape in the time between Pliocene and Quarternary.

The temperature of the water is extraordinarily cool, and even in August, which brings relatively the highest temperatures, it never exceeds 9° to 10°. In the vicinity of the shore the surface water is somewhat warmer, and only in some bays, which are favorably located, does the water temperature rise to 15° to 19° at the highest. From a depth of 255 meters on the water temperature remains approximately constant at 3.5°. At a depth of 900 meters a temperature of 3.4° has been recorded, and at 1,600 meters one of 3° has been recorded. The frequent, very violent storms are primarily responsible for the coolness of the surface water. These storms again and again stir up the water, but, on the other hand, they also see to it that Lake Baykal freezes over only at the beginning of January. As a mean established

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133 over long years, Lake Baykal remains for 116 days under a solid ice
132 covering, which can attain a thickness of up to 1.25 meters.

The fauna of the lake is peculiar, representing a true collection
136 of endemic forms. Of the 1,000 types determined so far, around 75 percent are endemic. Here in the middle of the continent there is a type of seal called "nerpa" by the Russians (Phoca sibirica), which is related both to the same type found in the Arctic Ocean (Phoca hispida) and also to one found in the Caspian (Phoca caspia). The next fauna worthy of mention is the small, viviparous spider fish (Callionymus baicalensis), whose family (Comephoridae) is peculiar only to Lake Baykal. Exceedingly large is the number of mollusks. To date 85 types have been determined, of which two endemic families of brachiopods (Benedictiidae and Baicaliidae) are typical fresh water representatives. The great age of the Baykal fauna, which must have followed an isolated development, indicates the /209/ /Sketch Map of the Provinces://210/ appearance of the Baicalia mollusks already in the fresh water deposits of the lower Cretaceous in Transbaykal.

505 As a result of its depth and its favorable natural landing places, Lake Baykal offers the best opportunities for water transportation. A steamer line which is traveled regularly, connects all the larger settlements with one another and also serves the transportation of goods. Wood constitutes the bulk (40 percent) of the goods transported, in second place are stones and building material (30 percent), then follow fish, salt, flour, and others. The wood as a rule is floated down the rivers to the lake and then is transported by steamer tugs to the mouth of the Angara, where it is transferred to the railroad in Baykal station, which is equipped with mechanized loading equipment, or a small part of it is floated directly to Irkutsk. Wood is delivered on the Transbaykal side primarily by the river areas of the Barguzin and the Upper Angara.

228 Also of economic significance is fishing, which is pursued both in the open sea and also in the bays. The principal role in this fishing is played by the catching of a type salmon, the omul (Coregonus omul Pall. or Coregonus migratorius), and of fish related to the omul: these fish constitute 58 percent to the catch. In second place are types of carp (22 percent), which are caught primarily in the lagoons and in neighboring lakes. Also the catch of seals, already mentioned, is not insignificant. In 1948 there were 1,380 animals caught. Fishing is pursued both by the state and also by fishing kolkhoz. The latter caught 68 percent of the total catch in 1949, while the state was

1 [i.e. Lake Baykal -- Analyst]

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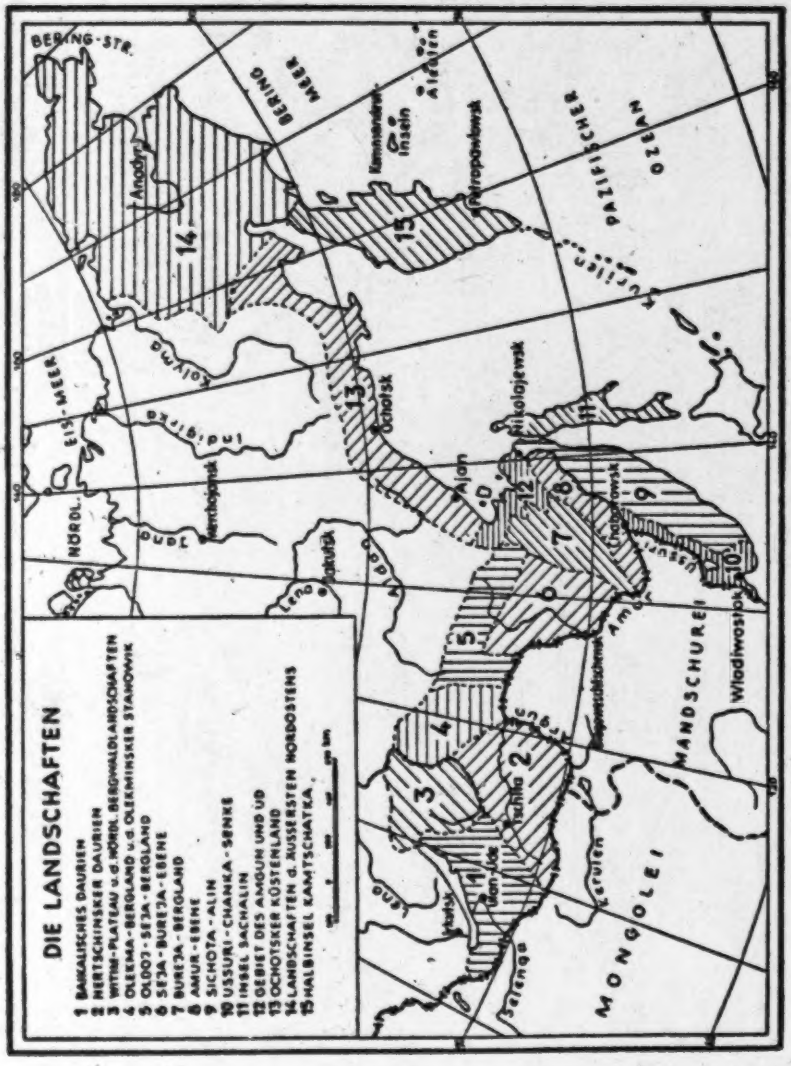
Sketch Map of the Provinces; (Captions to map on following page)



(Captions to map on following page)

133 •

(Captions to Map on page 235)

1. Baykal Daur
2. Nerchinsk Daur
3. Vitim Plateau and the northern mountain forest provinces
4. Olekma mountain country and the Olekminsk Stanovik
5. Oldoy-Zeya mountain country
6. Zeya-Bureya plain
7. Bureya mountain country
8. Amur plain
9. Sikhote-Alin'
10. Ussuri-Khanka depression
11. Sakhalin Island
12. Area of the Amgun and the Uda
13. Okhotsk coastal area
14. Provinces of the extreme northeast
15. Kamchatka Peninsula

responsible for 32 percent. On the Transbaykal side, in the area of 228
the Buryat-Mongol ASSR, approximately 30,000 double centner of
fish are caught annually; in good years even more than 35,000 double
centners of fish are caught. Thus a series of fishing settlements animate
the Transbaykal shore. The most important are Nizhne-Angarsk, 361
which lies on the extreme north east tip, Ust'-Barguzin at the mouth [255]
of the river of the same name, where there is also a fish canning
factory, and, south of this, Goryachinsk, which in addition to fishing [312]
is acquiring a growing importance as a health resort because of its hot
springs.

Baykal Daur

Baykal Daur begins in the west with the Khamar-Daban. This 133
mighty mountain massif, projecting up to 2,217 meters, follows the
southern shore of Lake Baykal. Along this shore, runs the railroad
which encircles Lake Baykal and which is forced to follow all its
windings. This mountain massif is little divided and has predominantly
soft forms with dome-like heights which are seldom rocky. These
heights, as Prassolov describes them (160), give the impression of being

160. Prassolov, L.I. Iuzhnoe Zabaykaliye /Southern

• 133 Transbaykal/. Material for Doing Research on the Ground in Asiatic Russia. Moscow, 1927.

flat steps, heaped up on one another; they appear easy to climb from the south but break off sharply toward Baykal. However, sharp ridges and pointed, pyramid-shaped mountains appear in the western part, especially in the area of the upper course of the Temnik and the Snezhnaya. Here also lie /211/ /The page itself is blank. Attached to it, however, is a sketch map of Transbaykal: Orographic Scheme/ /212/ the greatest projections of an Alpine type, rich Karbildungen /Karformations/, and other traces of a former glaciation. The bulk of the mountain range has a width of 40 to 70 kilometers and heights of only between 1,200 and 1,600 meters. But the saddles and passes are only 200 meters lower. Outcroppings of basic stone, principally gneiss and granite, occur mostly only on the lower parts of the slopes. The southern and eastern parts present a motley geological picture. Represented here primarily are crystalline limestone and other matamorphic rock, then porphyrite and basalt. In the Khamar-Daban radioactive materials have been determined in addition to other minerals. The bulk of the mountain range is covered [137] with thick forests. Only a few bare gol'tsy project beyond these forests in the eastern part, and only higher Alpine forms project beyond the tree line in the western part. The composition of the forests is strongly influenced by climatic conditions. On the slopes inclined toward Baykal and exposed to the damp and cool northwest winds there is typical Siberian taiga with larches, Siberian stone birch, pines, and others. On the dry southeastern slopes, on the contrary, pines predominate almost exclusively. The flat ridges are covered by an underwood and bush formation.

The Khamar-Daban is separated from the Borgoyskiy Mountain Range on the south by the valley of the Temnik, which flows down to the Selenga. The Borgoyskiy Mountain Range runs parallel to the Khamar-Daban and generally has the same character except for the fact that toward the south it is more heavily broken up /zergliedert/ and with wide, open valleys declines to the extensive graben depression of the Dzhida. In contrast to the Khamar-Daban and the Borgoyskiy Mountains, which are difficult to traverse and not very attractive because of their forest wilderness, the Dzhida valley is relatively well opened up. This goes back to the valley's valuable natural resources. [138] In the area around the upper course of the river there is, in addition to coal, rich supplies of wolfram and especially of molybdenum. These deposits can be reckoned among the richest in the Soviet Union.

1[cf. pp. 238-239 -- Analyst]

3: Thiel--238 K-4, 5 (no date) 1953 RR1 Siberia RR1

Section A.

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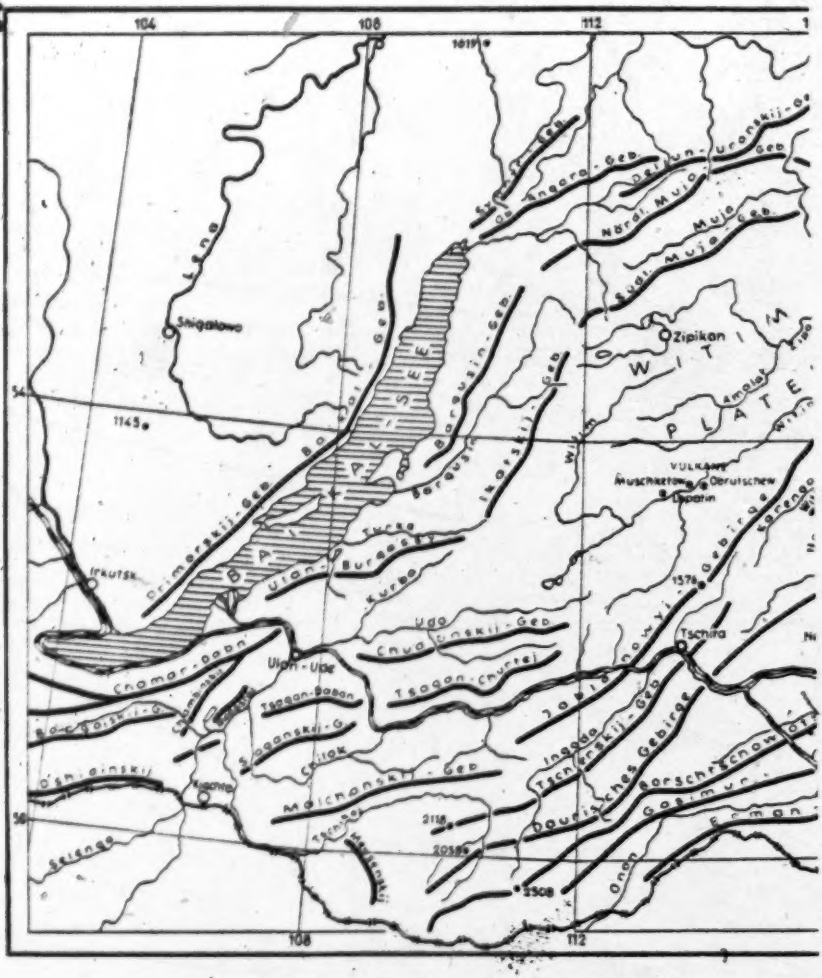

Sketch Map of Transbaykal; Orographic Scheme.

Section B.

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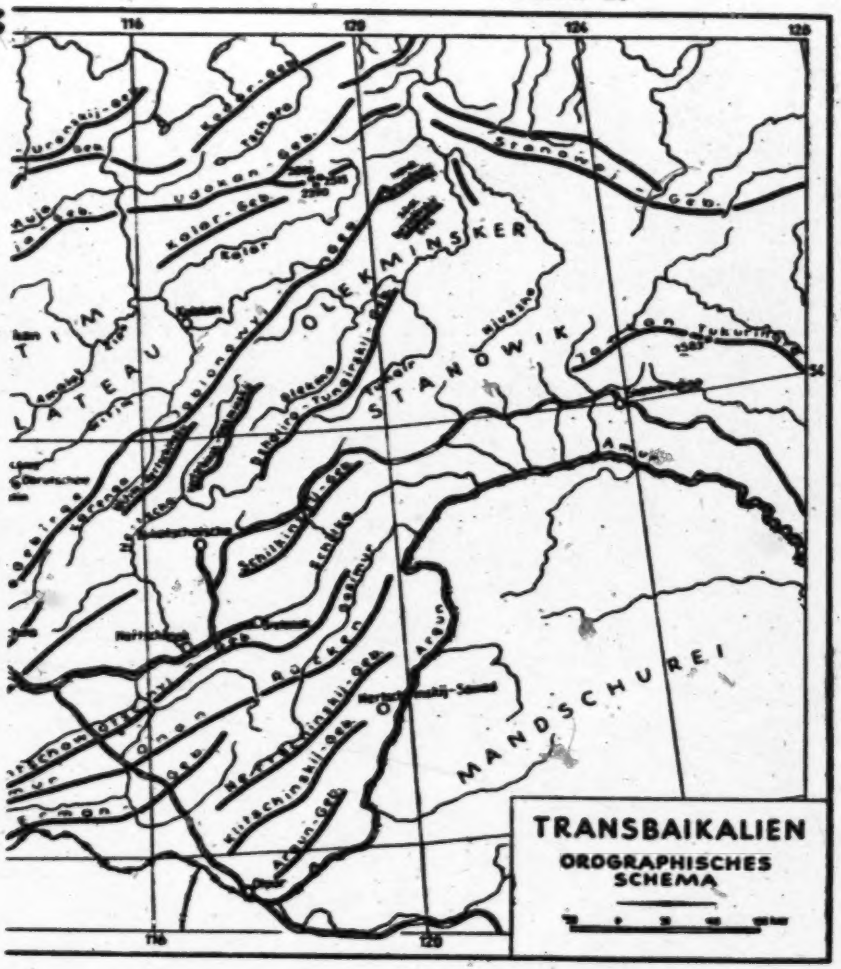

Sketch Map of Transbaykal: Orographic Scheme.

deposits can be reckoned among the richest in the Soviet Union. Thus, here in the middle of a remote wasteland a small industrial area has come into being, whose center is the town of Gorodok and which already has more than 10,000 inhabitants. The center is a large wolfram-molybdenum works with modern mines, ore dressing installations, conveying and suspension railroads. The valley slopes here are still grown over by thick taiga. However, toward the east the forest withdraws from the lower slopes, which appear far from one another and form an extensive grass steppe area, which merges with the Selenga steppe without interruption. The valley of the Dzhida is bordered on the south by the Dzhidinskiy Mountain Range named after the river. The Mongolian border runs along the watershed of this mountain range.

The Khamar-Daban continues toward the east with dimensions which become smaller morphologically and geologically. However, the Selenga, which breaks through the mountain in a narrow valley, is usually considered to be the eastern border of the Khamar-Daban. The Selenga circumscribes the eastern part of the Khamar-Daban and empties into Lake Baykal in a broadly projecting delta.

/213/ /Sketch Map of the Buryat-Mongol ASSR:/

/214/ The Selenga Delta is a heaped up plain /Aufschüttungsebene/, which on the mean lies 7 to 8 meters above the water level of Lake Baykal, to which the delta slopes in terraces. The lower terrace, which already bears sea deposits, is completely flat, while the remaining parts are gently rolling. The northeast, the real present-day delta, is traversed by numerous dead and living arms of the Selenga, while the southwest is flowed through by some tiny little rivers, which come directly from the Khamar-Daban. In terms of its landscape, the delta represents a dry steppe, in whose lower, sunken-in parts swamps are imbedded. The delta is fairly heavily populated by Russians and Buryat, who pursue both fishing and agriculture. Irrigation is used in the agriculture. The center of this area is Kabansk, where the railroad coming from the west touches the Selenga for the first time. The products of the fishing are stored here in modern cold storage installations and made ready to be transported away.[1]

From here the railroad uses the valley of the Selenga and reaches Ulan-Ude, the capital of the Buryat Republic, above the break-through by the Khamar-Daban. The city lies on the right bank of the Selenga at the mouth of the Uda, which is navigable by rafts. In 1926 still a small, dusty steppe town with 29,918 inhabitants, Ulan-Ude by 1939 had become a modern industrial city with 129,419 inhabitants. In

[1] [i.e. Kabansk -- Analyst]

361 this city almost 25 percent of the total population of the Buryat-Mongol
[391] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole
[253] Far East. Supported by the Buryat's important breeding of livestock, the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large
[323] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a rail-
[396] road, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since
[313] the tributaries of the Selenga come from areas rich in forests. Here again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

c133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over
487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak
491 (Chinese: Maimachen). This overland route, expanded into an auto-
496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this
491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

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into the river area of the upper Dzhida.

Gusinoye Lake has the shape of an ellipse, and, having an area 133 of 164.7 square kilometers and a maximum depth of 28 meters, it is the largest lake in Transbaykal. The present lake represents a recent formation. Even in 1720 it did not exist. In 1730 the water began to collect, coming for the most part from the Temnik, which used the Tsagan-Gol as a means of access to the depression. Around 1800 the lake already had approximately its present size. From 1810 the water began to withdraw again: the lake shrank up and numerous flat islands emerged. After 1865 a raising of the water level again set in, which gave the lake its old form again. At present a withdrawal of the water has again been determined. Gusinoye Lake lies in an area of Jurassic sandstones and conglomerates, which are interlarded with layers bearing brown coal. The Gusinoye plain continues toward the northeast and the south and is hemmed in on the west by the Khambinskiy Mountain Range and on the east by the Monostoy Mountain Range. The plain lying south of the lake bears the name of Tamchi. It owes its origin to fluvio-lacustrine deposits. Prassolov regards it as a delta formation of the Temnik. The main stream of the Temnik empties into the Selenga, but sends a branch, the already-mentioned Tsagan-Gol, into the lake, from whence a side river, the Bain-Gol, flows off and again leads to the Temnik. Accordingly Gusinoye Lake can to a certain extent be regarded as the Temnik's water storehouse. A slight fall in the water level is sufficient to keep any water from flowing off from the lake. The lake has fresh water and is very rich in fish.

Within the Gusinoye plain, interestingly enough, salt lakes in basins from which no water flows off and important deposits of chemical salt have formed: thus, for example, the Tsagan-Nor and the Selenginskoye Lake. The latter is 1.5 kilometers long and up to 1.8 meters deep. The hot summer furthers the concentration of salt in these lakes. Often they lie in a long extended depression /217/ within mighty layers of deposited salt with the present day lakes filling only the deepest spots with their waters. From this it can be deduced that the processes still going on in the present must have been more intensive in the past. These water basins never had a connection with the ocean either in the recent past or in the distant past; rather they are interesting examples of lakes with salt of continental origin. One collected salt which became free as a result of chemical disintegration of crystalline rock; others washed continental sediments in lye, sediments which had been enriched with salt in an older geological period. For this reason the

133 peculiarity of these lakes depends on the rock in which they are set. If such lakes lie within eruptive stone, they are as a rule alkali, i.e. they contain and deposit soda (Doroninskoye, Ononskoye, Borgoyskoy
137 Lake). In winter when the climate is dry, soda crystallizes out from the frozen surface of these lakes while strong winds raise up these soda crystals from the ice and deposit them in the immediate and distant environs, thus fostering the mineralization both of the ground water and also of the surface water. In order to extract soda, the soda crystals, which look like a white tinge on the ice, are swept together; thereby 20 to 25 tons of highly concentrated soda lye can be gotten from a hectare of ice surface. In order to foster the crystallization out of the soda, the ice is beaten open so that the lake water comes out under its own pressure through the openings and floods over the surface of the ice. If the lakes lie within Jurassic sediments, then sulphate forms as a rule, especially mirabilite. Deposited under the floor of Selenginskoye Lake is a layer, several meters thick, of sulphate of soda, whose supply is in millions of tons. Alginskoye Lake also belongs in this group. The railroad from Ulan-Ude to Naushki is supposed to lead to the opening up of the important salt deposits in the area of the Gusinoye Lake; the brown coal deposited in the same area is supposed to serve as a basis for this. A large sulphate plant is already in production. At the
361 Gusinoye Lake station a city with more than 10,000 inhabitants has grown from an unimportant village. Coal mines from here supply the railroad. In addition sawmills, brick yards, great dairies, and a fish-canning factory have come into being there. In the fish-canning factory the catch from Gusinoye Lake is processed.

133 The steppe regions which appear in southern Transbaykal vary
137 greatly in their economic importance. In the most southerly areas the artemisian steppe extends over a very wide area: it extends not only over the valley areas but also over the mountain slopes and mountains of the mountain ranges, which here are mostly low. In its driest parts the ground is often covered only 40 percent to 50 percent with plant growth, and the height of the grasses scarcely reaches 15 to 20 centimeters. These are poor meadows. Toward the north, through the thickening /218/ of the covering of vegetation and through the increase in the grasses, this type of steppe gradually changes into the artemisian grass steppe, in which the grasses become 35 to 40 centimeters high. These steppes are used as meadows in the spring and in the first half of the summer--as long as the vegetation still hasn't withered away under the summer heat. Both types of steppes have developed on chestnut-colored

Both types of steppes[1] have developed on chestnut-colored 133 ●
soil. Within these steppes salt-pans also appear. Further toward the 137
north the soil becomes darker, its humus content becomes greater (3 per- [134]
cent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock 231
breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat 242
have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large 282
leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the fore- 241
ground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important 231
animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area 361
around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into [234]
being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge 133
of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

133 which is covered with boulders and overgrown with bushes. From this plateau only a few rocky peaks extend above 1,600 meters. The bulk of it is covered with thick taiga. Adjoining it /219/ on the northeast is the Ikatskiy Mountain Range, which flows into the Vitim Plateau.

To the west of the Ikatskiy Mountain Range and separated from it by the broad depression of the Barguzin Valley, the Barguzin Mountain Range rises, which accompanies Lake Baykal to the northern end of the lake. The Barguzin differs sharply from the other mountain ranges in Transbaykal in its Alpine forms and its snow-covered peak, with individual mountains rising more than 2,300 meters above the Barguzin Valley and reaching an absolute height of up to 2,701 meters. In many parts of the mountain range, especially in the north, there are traces of an old glaciation: trough valleys, numerous lakes with a fjord-like appearance, etc. From these lakes project mighty drift blocks. Toward Lake Baykal the mountain range slopes down slowly, but toward the Barguzin valley it declines very sharply and steeply. Toward the Barguzin valley the mountain range character is also best stamped on the range. Here steep rock walls rise almost perpendicularly, projecting beyond the tree line, while typical taiga with very thick underwood covers the lower slopes. All this makes the Barguzin Mountain Range very difficult to gain access to. Some of the passes which exist can only be used by skilled hikers. It is therefore no wonder that in the Barguzin Mountain Range untouched nature has best been preserved, and even today this mountain range is still rich in valuable fur-bearing animals. Even the harshly persecuted sable has found a refuge here. The southern part of the mountain range, bordering on the village of Sosnovka on Lake Baykal, has been declared a national preserve.

The picturesque Barguzin Valley stretches for around 300 kilometers between the Barguzin Mountain Range and the Ikatskiy Mountain Range. In places the valley is up to 30 kilometers wide. In terms of its landscape it is divided into three parts. Thick taiga and numerous clearings, extending over the alluvial plains and covered with high grasses, are characteristic of the upper part of the valley, which extends as far as the mouth of the Garga. The central part, extending to the locality of Barguzin, consists primarily of sand with irregular surfaces traversed by dunes. Embedded in these sands are numerous swamps and lakes, and the rivers form a network of arms. Vegetation here is extremely poor and has a steppe character. The rocks projecting from the sand plains show traces of desert-like disintegration, indeed even aeolian sand erosion and other forms caused by wind such as otherwise are

peculiar only to dry climates. At the foot of the Ikatskiy Mountain [133
Range numerous warm springs bubble up; these springs contain above [312]
all sulphates. In addition there are mineral lakes, which, like the [135]
Alginsk lakes, lies in a basin of sulphate of soda of significant thickness. Below the locality of Barguzin the mountains come right down to the river and shut off the extended valley basin. Here begins the third part of the Barguzin Valley, the breach valley of the Barguzin toward Lake Baykal. On the right side the mountains press forward right to the river and present picturesque, alluring landscapes. On the left side, on the other hand, the mountains withdraw more or less /220/, making free a flat area along the shore. This landscape on the lower course of the river accompanies the river for almost 40 kilometers. Thus the Barguzin Valley presents an extremely remarkable landscape. Epsom salt lakes between alluvial swamps and lakes in the valley basins of rivers rich in water; wide development of sands with dunes and steppe vegetation; traces of desert-like disintegration; permafrost; warm springs; thick taiga on the circumference; snow-covered mountains in the background: all this shows a heaping up of contrasts such as is undoubtedly rarely found on the earth. The area around the upper course [135]
of the Barguzin has alluvial sands rich in gold. For the rest this area
is traversed only by Tungus reindeer breeders. The other part of the [361]
valley basin is an island of settlements in the middle of uninhabited mountain forests. Numerous Russians and Buryat here devote themselves to the breeding of livestock and to very considerable agriculture with irrigation. The rivers coming from the side valleys of the mountain range are used especially for the irrigation of the fields. The center of the main area of settlement is the village-city of Barguzin, which always has several thousand inhabitants. This city lies on the river of the same name. The Barguzin River is also navigable from here down and, via Lake Baykal, it represents the sole connection with the outside world.

Just north of the mouth of the Barguzin the Svatoy Noz Peninsula adjoins the land. This peninsula forms an island which is 55 kilometers long and is transversed by two mountain ranges which are up to 1,587 meters high. Only later is this island joined to the shore by a flat narrow piece of land. The material for this is supplied by the Barguzin, the heaping up and the alluvium provide for the current and the waves of Lake Baykal. The original view that the peninsula is a continuation of Ol'khon Island has shown itself to be incorrect, as Busch has shown. On the contrary Ol'khon Island is an underwater ridge running to the

northwest of the peninsula and separated from the peninsula by a channel. The Ushkani Islands northwest of Svatoy Noz, on the other hand, rise on this ridge and consist of the same stone as Ol'khon Island.

South of the Uda valley depression there next follows in parallel strips, running in the direction of Lake Baykal, the ridges of the Tsagan-Daban and the Khudunskiy Mountain Range, then--beginning in the west on the Khilok--the Saganskiy Mountain Range and the Tsagan-Khurtey, which is bordered on the south by the broad valley of the Khilok. The railroad follows the upper part of the Khilok. Between Khilok and Chikoy there then rises the Malkhanskiy Mountain Range which on the east flows into the Yablonovyy Ridge. All the valley depressions, such as that of the Uda, the Khilok, and the Chikoy, which on the west over a great width melts into the Selenga steppes, put on a different face the farther one goes to the east. The differences in height between the bottom of the valleys and the ridges become smaller, the slopes become flatter, the mountain forms become round, often with almost flat watersheds. The bottoms of the valleys lie at 850 to 950 meters above sea level, the passes have a height of 1,000 to 1,150 meters, and the peaks are 1,200 to 1,400 meters high. Toward the east the climate becomes markedly more contrary and damper, and accordingly the bottoms of the valleys /221/ show signs of increasing swampiness. Correspondingly the population, which is limited almost exclusively to the valleys, also decreases toward the east. Because of the railroad line the valley of the Khilok is the best inhabited. In this connection Petrovsk-Zabaykal'skiy should be mentioned. It lies on the railroad line coming from Ulan-Ude on a section between the Saganskiy Mountain Range and the Tsagan-Khurtey and has the largest single foundry in Transbaykal. The iron ore is delivered by the mines of Balyagansk northwest of Petrovsk, and the coal comes from Tarbagatay and Khalyarta in the valley of the Khilok. All three localities lie not far from Petrovsk and are connected to the main line by railroads. The valley area of the upper Khilok and that of the Chikoy are distinguished from the other regions in Transbaykal by the fact that in these valleys summer rye is well cultivated as grain for bread, while otherwise the cultivation of wheat predominates.

Apart from the above-mentioned coal mining localities, the city-like settlements of Khokhotuy and Bada, known for their processing of lumber, and also Khilok and Mogzon lie on the railroad line east of Petrovsk-Zabaykal'skiy and still in the valley of the Khilok, which flows into the Selenga. Khilok and Mogzon have, in addition to food

industry, metal and machine factories. East of Mogzon the railroad crosses the Yablonovyy Ridge and enters Nerchinsk Daur. 361

Nerchinsk Daur

The Yablonovyy Ridge, which is among the best known mountain ranges in Transbaykal, forms the boundary between the two Daurs. The Yablonovyy Ridge forms the watershed between the rivers flowing into the Amur and those flowing into the Selenga, and thus in the broadest sense it separates the sphere of rivers flowing into the Pacific from the sphere of rivers flowing into the Arctic Ocean. However, this applies only to its southwestern part, for above the Chita River the Yablonovyy shoves in between the Vitim and its tributary the Karenga, and further to the northeast it divides the river area of the Vitim from that of the Olekma, all of which flow toward the north to the Lena. In addition, the Yablonovyy Ridge forms a remarkable climatic and plant-geographic border. The influences of the east Asiatic monsoon penetrate as far as this mountain range and permit deciduous trees to flourish here as representatives of a more moderate climate. West of the ridge deciduous trees are lacking. In this connection the height of the ridge is not so significant as to permit such an influence to be expected. /133 [37]

The Yablonovyy Ridge generally attains a height of only 1,200 to 1,300 meters. Its highest point, which is 1,670 meters high, is the Sarakan, which lies northeast of Chita and which as a golets projects alone from the otherwise very monotonous surface. The relative differences in heights between the valley depressions and the ridges are, however, only insignificant. The railroad crosses the mountain range west of Chita at the Yablonovaya station at /222/ a height of 1,050 to 1,070 meters. The pass here lies only 105 to 125 meters above the valley of the Khilok on the northwest but it is 305 to 325 meters above the bottom of the valley of the Ingoda with the decline to the Ingoda valley also being shorter and steeper. This asymmetrical structure with a steeper southeastern slope and a flat northwestern slope is a characteristic of almost all the mountain ranges in Transbaykal. Obruchev explains this contrast by the effects of the frozen earth by means of solifluction and heavier erosion. The ridges themselves also appear little in the picture of the landscape. From the valley of the Khilok the slope rises slowly to the watershed, which appears to be an almost level rampart. The ridge itself is a more or less plain which is covered with thick forests. Sunk in this plain are saddle-like hollows taken up by swamps. From

133 these hollows, as a rule, the rivers find their origin.

Southeast of the Yablonovyy Ridge and its western continuation, the already-mentioned Malkhanskiy Mountain Range, there extends the rather wide valley of the Chikoy and of the Ingoda, which is for
361 the most part settled by Russians. Here the Russian villages lie along the rivers like pearls on a string, while only a few kilometers away there stretch mountain forests which are still uninhabited. The best connections to these areas of settlement are from the railroad stations of Khilok and Mogzon.

The capital of the region, Chita, lies at the point where the Chita River flows into the Ingoda. After the construction of the railroad line, Chita quickly developed from a small town into a large city, which by 1939 already had 102,555 inhabitants, and at present its population probably already exceeds 150,000. The city is built on both sides of the river of the same name, and, lying 660 meters above sea level, the city rises like an amphitheater on two terraces of the land rising toward the north. It lies in a dry, healthy region. Chita constitutes the economic center of the entire region. It is especially known for its fur and leather processing. In addition, there are concentrated in the city important flour mills, saw mills, and
[316] rather large repair shops for locomotives and railroad cars. A few kilometers west of the city lies the Chernovskiye Kopi, one of the
[317] most important coal districts in the area. Natural calcinated soda is extracted from the Doroninskoye Lake, which lies further up in the valley of the Ingoda.

133 From Chita the Ingoda breaks through on the southeast first the Cherskiy Mountain Range and then the Daur Mountain Range, and, then again bending in the direction of Lake Baykal, it finally follows the depression between the Daur Mountain Range and the Borshchovochnyy Mountain Range. In this depression the Ingoda unites with the Onon, which comes from the south. These two rivers then form the Shilka, the left source river of the Amur.

Approximately 60 kilometers below the point where the rivers flow together, and at the Nercha which flows into the Shilka from the north, is the city of Nerchinsk (28,000 inhabitants), and 85 kilometers further down lies Sretensk. Here the well-known Nerchinsk steppe island stretches on the left side of the Shilka, principally between the Shilka's two tributaries, the Nercha and Kuenga. /223/ /Sketch Map of Chita Oblast:/ The bulk of this steppe island consists of an almost ideal plain. The rest of the steppe island is gently

rolling with gentle rises toward the edges. In the ground lies a granite foundation, over which is liparite and tuff, covered over by a thick layer of lacustrine deoposits, which point to the formation of the steppe basin from a former lake (Gladtsin, 69). Striking is the present day

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science, (Moscow, 1938), p. 174.

dryness, which forms a sharp contrast to the forest landscapes surrounding the steppe island. The low position (620 to 680 meters above sea level) as a depression between the contiguous mountain chains, may well be the reason for the special climatic conditions prevailing here. The fertile steppe soil, in many cases designated as black earth, has lead to thick settlement, and, accordingly, the grass steppe only rarely now shows itself in its original dress. The levelness of the steppe is interrupted only by flat, mostly dry valleys with gentle slopes. /224/ In the deeper places there appear damp meadows, often swamps, and also not uncommonly even salt-pans. The slopes of the valleys sloping to the north are overgrown with birches, poplars, meadows, and bushes, especially if the valleys have the character of a ravine. The transition to the forest landscapes occurs quickly. However, the souther slopes remain free of forests the longest and often appear in contiguous taiga as small forest steppe islands. Toward the Shilka the steppe plain breaks off with a steep, heavily valleyed, high step, which from the river often gives the impression of a mountain land. Next to the dairy and meat economy, the cultivation of grain stands in first place in the agriculture of the steppe island. The economic center is Nerchinsk with its mill plants, brandy and alcohol distilleries. In terms of transportation Sretensk has a better location, for there the regular Amur shipping begins. West of Sretensk in Kokuy there is a shipyard.

The Transbaykal Railroad runs from Nerchinsk on further on the left shore of the Shilka as far as Kuenga, and from here a branch railroad leads to Sretensk. The main railroad line, which from here on bears the name of Amur Railroad, leaves the Shilka Valley at Kuenga and circumscribes the Shilkinsk Mountain Range in a great arc. Here in the north, lying in a side valley of the Kuenga and connected by a railroad line, are the coal mines of Bukachacha, which in their production stand in first place in Transbaykal, and farther to the east around the Mogocha Station lie extensive gold fields.

000 around the Mogocha station lie extensive gold fields. Thick taiga
137 lightly inhabited here crosses over all types of land. The raw climate is already strongly perceptible. Permafrost sets in already at a depth of 1 meter. The increasing swampiness of the lower places, and the increasing appearance of gol'tsy which are bare or covered only by bent wood vegation /Krummholzvegetation/, show that here we already find ourselves in the transitional area to the raw forest landscapes of the north.

• 133 The Baykal Cherskiy Mountain Range accompanies the Yablonovyy Ridge on its southern side and goes in the same direction as the Yablonovyy. East of the Ingoda break-through, the broad, swampy valley of the Chita River forms the border. Then the Cherskiy Mountain Range extends further still to the northeast into the still little known regions around the source of the Nercha. It is to this area, in the opinion of Vosnessenskii, that the 1,971 meter and 2,091 meter high Kropotkin Mountains belong. The course of the Daur Mountain Range, which adjoins the Cherskiy Mountain Range and runs in a parallel line to it, is still not fully clarified. Since the border between the two mountain chains is very vague, the two ranges are often referred to by Russian authors as one range, either under the first or the second name: In the break-through valley of the Ingoda the two mountain ranges can be recognized as separate units. Two tributaries of the Ingoda, the Olenguy on the right and the Kruchina on the left, divide the overall massif. Further toward the east the Daur Mountain Range remains on the left side of the Ingoda and Shilka, crosses /225/ the Nercha and, in the opinion of Gladtsin, could continue into the Shilkinskiy Mountain Range. In their gently rolling surface forms the two mountain ranges show their original form to be almost level. With the later elevation this original plain has been far more valleyed and divided up through increased erosion that the Yablonovyy Ridge has been; and, accordingly, watershed areas in some parts have disintegrated or show a course that is often very winding.

The Borshchovochnyy Mountain Range, the next mountain ridge to the southeast, is to be regarded as the last typical Baykal mountain chain. The Borshchovochnyy begins in the area around the upper course of the Ingoda and of the Onon on the Mongolian border and stretches almost 1,000 kilometers to the east-northeast. With this mountain range, too, the eastern part of its course is more marked and better known that the western part. Immediately after the break through in the Daur Mountain Range, the Borshchovochnyy forces the

[i.e. Shilkinsk Mountain region --Analyst]

Ingoda to turn to the east and then follows the river in the same direction. In a chasm the Onon here breaks through the mountain range from the south, but the ridge remains on the right side of the Shilka and, bordered on the south by the Gazimur, reaches the Argun where it runs into spurs of the Great Khingan. Thus two tectonic lines meet here at a sharp angle. The surface forms generally have the same character as on the above-mentioned mountain chains. The breaking up into valleys is especially prominent in the eastern part, along the Shilka and toward it, since here, following the usual picture in the Baykal area, the southern slope toward the Gazimur is short and precipitous, and, accordingly almost all the rivers are directed toward the Shilka. In the vegetation picture, too, the Borshchovochnyy Mountain Range still shows the full, thick forest covering; only south of Chita does the steppe penetrate even to the ridge of the mountain.

Toward the southwest, in the area between the long valley of the Ingoda and the Chikoy on the one side and the Onon on the other side, all three mountain chains--the Cherskiy, Daur, and Borshchovochnyy mountain ranges apparently flow together, according to knowledge to date. No sharp borders can be drawn here. The Borshchovochnyy Mountain Range, however, has the principal role here, for it carries the main watershed between the waters flowing off to the south to the Onon and the rivers heading toward the north to the Chikoy and the Ingoda. The Cherskiy and Daur Mountain Ranges, on the other hand, are broken through and divided into individual parts, not only by the upper courses of the Chikoy and the Ingoda but also by their numerous tributaries. The entire area covering the region around the upper course of the Ingoda, the Chikoy, and the Onon, has, in contrast to the rest of Transbaykal, a peculiar physical-geographical character. This area is a mountain land with numerous heights, which extend far beyond 2,000 meters. The best known mountain is the Sokhondo, which is 2,508 meters high. It lies on the main watershed in a mountain chain, whose highest elevations all reach between 2,243 meters and 2,332 meters. However, as Gladtsin (69) /226/ reports, north of

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science (Moscow, 1938), p. 169.

this series of heights mountains have been found which are not inferior

133 in height. Thus the Barun-Shebetuy golets, which lies between the Chikoy and its tributary the Chikokon and which is 2,556 meters high, is taller than the Sokhondo, which formerly was considered to be the highest mountain in Transbaykal. Because of their location away from everything and because of the difficult access to these uninhabited regions, they are still very little known. However, the research of Dengin gives a general picture of the landscape, which does not differ from the rest of Transbaykal in its geological-morphological history. The Barun-Shebetuy and also the gol'tsy neighboring it, like most of the mountains in the Sokhondo series, also have a flat surface, and the rest represents a strongly elevated area which is almost a plain. The present-day relief is the result of a very heavy erosion with an important role having been played by the glaciation in the Quarternary period, which is indicated on the Sokhondo by Kare /Karst?/, trough valleys, and moraines and which apparently also gripped the other mountains, which are no less high. Therefore, the same thing has resulted here as is shown by the morphological relationships in the western part of the Khamar-Daban and in the bulk of the Barguzin Mountain Range: everywhere that the diluvial glaciation has gripped a place, the elevated peneplain parts have experienced a much stronger shaping into mountain-like forms, indeed a shaping almost into the Alpine type, than the other areas. Of special morphological significance for the area around the upper course of the Ingoda, the Chikoy, and the Onon, is, in addition, the mighty appearance of intrusive rocks from the Paleozoic to the upper Mesozoic periods and also the appearance of effusive rock such as porphyry, dazite /Daziten/, andesite, and basalt of varying age. These rocks, because of their varying resistance, have contributed significantly to the differentiated shaping of the relief. From all this it is clear that the present-day relief does not correspond with the geological-structural formation and its direction by reason of the prevailing erosion processes of the past and present. The slopes of the
[131] mountains are as a rule covered with thick forests. Only on the sides facing south are there treeless steppes, especially, naturally, on the extreme slope facing Mongolia. Pure steppe, for example, crosses the foot of the Sokhondo to a height of 1,200 meters. Birches and aspens, soon joined by pines, constitute the transition to the raw mountain taiga, in which larches and Siberian stone birch predominate. From 1,900 meters on, the transition to mountain tundra begins via bent wood vegetation. As a consequence of mighty storms, the windfallen wood is very heavy. There are Russian settlers only on the outer

There are Russian settlers only on the outer edge of the region in the valley plains of the main rivers; the entire, vast interior, on the other hand, is completely uninhabited. 133 [361]

The Manchurian Railroad branches off from the Karymskoye station between Chita and Nerchinsk. This railroad strikes the direct route to Vladivostok via Harbin. The last Soviet Russian station is Otpor, which /227/ lies opposite the Manchurian border. The railroad runs directly to the southeast and, in the process, crosses over all the mountain ridges almost at a right angle. After the Borshchovochnyy Mountain Range, there follows the Gazimur-Onon ridge, which reaches south of the Gazimur River to the Argun, and then the Erman, Nerchinskiy, Klichinskiy, and finally the Argun mountain ranges. All these mountain ridges run in the direction of Lake Baykal and run almost parallel to one another. The Gazimur-Onon ridge extends along the middle course of the Onon on the north side of the river until the break through of the river. The Gazimuro-Onon ends on the Argun between the Gazimur on the north and the Uryumkan on the south. It is never over 1,000 meters high. The Erman Mountain Range is already divided into two parts by the Tarey Basin which has no outlets. In the picture of the landscape of the entire region a gradual change is apparent from northwest to southeast, and also one from northeast to southwest. [496]

From northwest to southeast, i.e., in the direction of the Manchurian Railroad, the ridges gradually become lower, the differences in height decrease. The coniferous forests and likewise the swamps disappear. A striking wealth of birches enters, covering first the ridges, then only the northern slopes, and finally making way for the pure steppe. In the process salt-pans can already appear in the depths.

To the northeast, toward the Argun, all the mountain chains become higher, the Erman Mountain range reaching up to 1,400 meters, the Nerchinskiy Mountain Range reaching up to 1,300 meters, and the Argun Mountain Range reaching 900 to 1,000 meters. In the regions whose waters empty into the Argun, especially in drainage areas of the Gazimur, Uryukan, and Urov, the land has the character of a medium mountain range with peaked heights, deeply etched river valleys, and larger relative differences in height (300 to 500 meters). The undeveloped water network with great drops and numerous stony current rapids and waterfalls points to a recent elevation of this region, whose landscape can be designated as the Argun type. Toward the southwest the absolute height of the ridges decreases, the relative differences become smaller (100 to 150 meters on the mean), the valleys become wide, the rivers form great arcs and numerous meanderings.

2 [i.e., in the area between the valley of the Ingoda, Chikoy and the Onon -- Khalgat]

133 Side erosion predominates. Gradually the ridges dissolve into hills. This landscape, designated by Presnyakov as the Gobi type, takes up the entire southern part of the Argun region. Here are the mountain steppes of the Onon and Argun. The Tarey Basin, which is also designated as Onon plain by Russian geographers, should be named as the third province. The Tarey forms a basin with no outlets and extends beyond the Mongolian border as far as the Kerulen. In the center lie the Tarey lakes, of which various ones cover a significant area. Thus the Barun Tarey covers 435 square kilometers, and the Sun Tarey covers 300 square kilometers. The countryside is for the most part level and is interrupted only by former river valleys and lake basins which are now dry. The /228/ remaining lakes lie 60 to 70 meters below the general surface, i.e. at an absolute height of 620 meters, but they are always still up to 5 meters deep. Despite the clear signs of recent drying up, water springs appear in many places on the surface. These springs form the centers of human life. The steppe character often gives way already here to wasteland forms.

The border between steppe and forest extends from Aksha on the middle Onon via Il'inskaya to the north to the watershed between Aga and Ingoda, then on the Ingoda to the east to the mouth of the Aga. From here the border circumscribes the Argun mountain country in an arc swinging to the south via the localities of Onon-Borzya, Akatuy, and Algachi. The border then turns again toward the northeast via Nerchinskiy-Zavod to the Argun.

Southeast of Chita there begins the Aginsk steppe, a true grass steppe, which takes up the river area of the Aga and the middle Onon. [231] Here lies the national oblast of the Buryat, who have made the area into an important livestock-breeding region. The Argun steppe takes up the entire southeast, where livestock breeding likewise dominates the economy. But here there are Russians, who pursue the breeding of cattle and sheep in large, specialized, state farms. In addition, [241] there are also some state farms for horse breeding. To the north of both steppes agriculture, with wheat as the main product, is diffused over a large area, and in a broad front it penetrates to the south. [361] Along the great rivers and also along the Argun the villages extend in a line through the middle of the steppe. The diffusion of agriculture [134] is favored by the circumstance that, despite the often very poor steppe vegetation, a horizon very rich in humus, a type of black earth, has developed under the pitted grass /Grasnarbe/.

000 The wealth of natural resources is, however, of far greater

The wealth of natural resources is, however, of far greater 135
significance for the economic development of the future.* In this 489
connection the non-ferrous metals in addition to iron ore should be mentioned primarily. The still insufficient connection with the transportation network, however, offers the greatest handicap to the exploitation of the natural resources. Apart from the railroad line which runs from Karymskoye to Otpor to Manchuria, there are only land routes available. Even the very important zinc-lead mines in Khapcheranga, in Mangut, and on the Sokhondo can be reached from the Ulstuy station, west of Karymskoye, only by a built-up land route which is around 320 kilometers long. And by the same route, too, the produce of the mines must be brought to the railroad line on trucks. Because of the smaller differences in height the land route along the Onon valley to the Olovyannaya station has recently been used in perference to the above-mentioned route, which crosses more mountain ridges. Also the regions in the angle between the Manchurian side branch of the railroad and the Argun can only be reached by built-up land routes and truck transportation. Borzya on the railroad line appears to be 361
developing here into the traffic center. Toward the east a narrow-gauge railroad leads to the /229/ non-ferrous metal mines of the Argun district, and toward the southwest a similar line leads to Choybalsan in the Mongolian People's Republic. The city itself, located in the middle of the Argun steppe which is rich in livestock, has a large meat plant. In addition to Borzya there should also be mentioned on the Manchurian branch of the railroad the city of Olovyannaya, which has already been mentioned several times and which is known for its tin works. The bulk of the other localities have already been listed in the discussion of the natural resources.

*[i.e. of the Aginsk steppe -- Analyst]

The Vitim Plateau and the Northern Forested Mountain Provinces

To the north of the Yablonovyy Ridge, spreading east of the 133
Ikatskiy Mountain Range, is the Vitim Plateau, which is adjoined on the north by a series of mountain ridges. The entire region represents a forest mountain range landscape, which climatically is very raw and which makes it very difficult for man to make his way here. Agriculture disappears almost entirely here or is limited to small islands which are scattered sporadically. Only Tungus hunters and reindeer breeders in small numbers traverse the thick taiga and pass a laborious life . However, these wastelands conceal extraordinarily rich gold 316
streams, which are diffused especially in the central part of the Vitim Plateau and which have brought into being active gold

316 mining. Accordingly, these parts have been best explored and are best known.

/299/ /Sketch Map of the Vitim Plateau and the Northern Mountain Forest Provinces/[1]

● 133 /230/ Here in the northeastern continuation of Transbaykal, the characteristic morphological traits are also clearly marked. There are old root plains, which are dissolved into horsts and grabens by breaks, with contiguous mountain ridges and wide valley plains appearing in addition to wide, gently rolling, high plains which have only mountain cores projecting above them. The old disturbance lines running toward the northeast in the Lake Baykal direction also traverse this area and determine the essential border lines of the morphological units. Accompanying the metamorphic and mass rocks of the Archeozoic era, there are already here more recent sediments, and above all very frequently there are large basalt coverings, which are of decisive importance for the surface structure of various regions. The Ice Age has been influential in the morphological shaping in places, and has heaped up large moraines in the valleys. Generally the phenomena of frost and solifluction appear far more often than in the rest of Transbaykal.

The Vitim Plateau is formed from the growing together of the Transbaykal mountain ridges stretching there from the southwest. The bulk of the plateau is bordered by the Vitim itself. This river flows first toward the south, then turns sharply toward the northeast and then toward the north-northwest. The interior of the high plain is drained by tributaries of the Vitim, principally by the Tsipa and its tributary, the Amalat.

The plateau represents a monotonous high plain, traversed by flat-sloping embankments; between these embankments there are swampy plains covered by thick larch taiga. These plains often extend over ten kilometers and more without the slightest change. The little tiny rivers flow in flat, open valleys; larger rivers, on the other hand, have sunk 40 to 50 meters into the high plain with one side, washed away underneath, often appearing to be steep and rocky, while the other side extends as a damp, swampy plain, filled with small lakes. At present, side erosion predominates in all the valleys. The watersheds rise 400 to 600 meters above the bottoms of the valleys, but the watersheds lie at a very great distance from them. The absolute height of the main watershed reaches 1,700 to 1,870 meters with the passes having a height of 1,385 to 1,490 meters (

[1] [Cf. cat. 116, p. 261 -- Analyst]

Sketch Map of the Vitim Plateau and the Northern Mountain Forest Provinces

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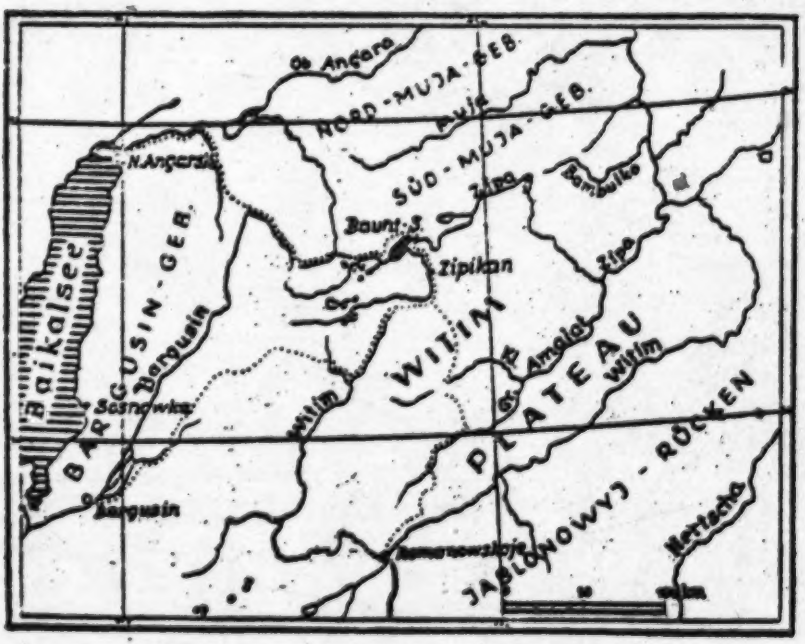

(Gladtsin, 69). Between the Tsipa and the Amalat, i.e., in the 133.

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaikalia /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science (Moscow, 1938), p.151.

main division line, the watershed, however, projects only 360 to 450 meters over the general height of the surface; but with the flat slopes even their highest places differ only slightly from the surroundings. "Somewhat fewer grasses, in their place more moss, less green and fewer branches of larches, the appearance of low-growing birches in larger numbers than in the plains: all these are things by by which one can recognize the higher position of the watershed," says Kropotkin. The river area of the Tsipa is especially uniform in this connection. This results from the slight fluctuations in height along with great expanses in the horizontal lines; in addition, the thick forest covering conceals the irregularities in the surface and rounds off and equalizes the sharper contours. The broad valley areas, covered with swamp meadows, /231/ give way so gradually to rolling land that it is difficult to draw a border since the slopes mostly have an inclination of only 2° to 5°. However, here and there individual mountains with marked contours appear above the general surface. The majority of these mountains consist of granite. Above 1,500 meters these mountains are bare of any form of plant growth and appear as naked rocks studded with mighty blocks and boulders. They are the usual gol'tsy. As a rule they have the form of peaks or embankments; less commonly they have sharper features with the rock being decisive for the form.

Toward the peripheral regions the plateau is more broken up and in places acquires a mountainous character. This applies especially to the area around the upper course of the Barguzin and the Vitim. The southwest, on the other hand, again shows more the level, gently rolling surface. This is explained by the great basalt cover here, which lies over everything. Where this covering does not exist, the relief is sharper and shows more contradictory traits. The diffusion of the basalt is suited to the river valleys with which genetic connections must undoubtedly exist. The border of the diffusion of the basalt runs along the Vitim in the west and south, and in the north it runs along the Great Amalat as far as the meeting of this river with the Lesser Amalat; from here the border then withdraws toward the south to the

133 Vitim. The basalt covering thus fills almost the entire southwestern corner within the course of the Vitim. Here, too, three typically-formed volcanic cones have been discovered: the Mushketov Volcano; opposite it, on the right side of the Vitim in the vicinity of the mouth of the Kokyrtuya, the Obruchev Volcano; and somewhat above this, again on the left side of the valley of the Vitim, the Lopatin Volcano. The tree cones project approximately 100 to 160 meters above the surrounding area. Even if these volcanos may also have played a role in the formation of the basalt covering, still the greater part of the covering goes back undoubtedly to effusions in cleavages /Spaltenergüsse/. If the basalt covering has also contributed to the level character of the surface and to its maintenance, the rivers have cut deeply into the plateau in those places where they have succeeded in penetrating to the 20 meter thick basalt; accordingly, gorge-like, even canyon-like valleys are especially characteristic for these peripheral regions. These valleys with their rocky walls stand in sharp contrast to the level surface.

The main water veins of the Vitim Plateau follow in their course the tectonic lines. The Tsipa forms not far from the source of the Barguzin. It flows first toward the northeast in a broad valley filled with lakes; then, however, it very suddenly breaks out of this valley, turning to the south, and relinquishes to the Bambuyka the further use of the tectonic valley extending to the northeast. The Bambuyka after a certain stretch likewise breaks out toward the south and leaves the last stretch of the valley free for the Tuldunin, which reaches to the Vitim. The cross-bar which separates the Tsipa and the area around the source of the Bambuyka, consists only of a low hilly country of river boulder alluvium with lakes dug into the depressions. It is from these lakes that the /232/ Bambuyka also finds its origin. Old stone is also supposed to be underneath this boulder barrier. The second barrier between the Bambuyka and the Tuldunin is determined by a granite bar. After its break-out, the Tsipa flows in a gorge-like valley, which in places is narrow but which then later broadens into a wide depression. In this valley the Tsipa runs toward the southeast almost exactly parallel to the Vitim, only in the opposite direction, until it runs into the Amalat forming from the right. As the Great Amalat, this river comes from the southwest and in a broad valley extends toward the northeast approximately parallel to the southeastern border of the plateau and the Vitim which flows there. Although the Tsipa has more water, in the course of this valley it

becomes part of and continues the direction of its tributary toward the 133
northeast until it empties into the Vitim. In the Tsipa-Bambuyka valley and in the Amalat-Tsipa valley there are tectonic lines running in the Lake Baykal direction. These lines here are crossed by disturbance lines running southeast-northwest. These lines seem to be indicated by the middle course of the Tsipa and the northwest direction of the Vitim.

The valley of the upper Tsipa is indicated as the tectonic continuation of the Barguzin valley. It attains an extraordinary width (up to 25 kilometers and more) and represents the floor of a former important fresh water lake, whose surface, clearly indicated by terraces, lay at 1,129 meters above sea level. The present-day valley basin is taken up principally by peat moors and meadows with clusters of grass, in which a large number of lakes of all sizes have remained as remnants of the former water basin. The largest lakes are Baunt, Busani, and Okunevskiy lakes. Baunt Lake, through which the Tsipa flows, lies at a height of 992 meters. The southern part of this depression, which is rich in lakes, is used by a tributary of the Tsipa, the Tsipikan, whose source neighbors on that of the Vitim. In this area, on the upper Tsipikan and Vitim, lie the richest gold fields in the Vitim Plateau. Toward the east the former lake basin thins out to a narrow valley; and, accordingly, boulder barriers occur easily to stop the Tsipa and force it toward the south. The tectonically determined valley, however, as has already been stated, continues in the same direction toward the northeast and serves as a river bed for part of the Bambuyka and for all of the Tuldunin.

The most important gold regions of the Vitim Plateau are in 316
the upper courses of the Tsipikan, Vitim, and Lesser Amalat; in short, they are deposited somewhat toward the west, almost in the central part of the plateau. The gold streams in large part lie in the permafrost area, and, accordingly, the dressing of the ore and the extraction of the gold takes place with difficulty, even though dredges and mechanical gold washing installations are employed. The supplying of the area causes special difficulty, since supplies must be brought through vast, uninhabited taiga wilderness. To be sure, Baunt Lake supplies fish, meat comes in part from the reindeer herds of the Tungus, potatoes and vegetables are cultivated to a slight extent on the spot, but the outside world must be / 233/ relied on for the rest of the supplies. For this the Barguzin Valley plays the primary role, because the shortest routes, although difficult ones, lead from it to the gold districts.

316 [491] [509] Land road connections also exist toward the south via Romanovskoye on the Vitim to Chita. A rapid and continuous means of transportation has recently been ensured by an airline, which is flown regularly and which connects Chita with Tsipikan, the center of the northern gold district.

•133 To the north of the Tsipa-Bambuyka valley rises the Muya mountain country, which is divided into two long ridges by the river of the same name which flows toward the northeast to the Vitim. These two long ridges are the Southern Muya Mountain Range and the Northern Muya Mountain Range. The northern border of the latter is formed by the extended valley of the Upper Angara, which flows toward the west-southwest to Lake Baykal.

The Southern Muya Mountain Range, a mighty, massive horst, forms the watershed between the Tsipa and the Muya. It has a raw, wild appearance with a ridge of numerous gol'tsy, with an entire series of heights, crowned with snow, rising over 2,000 meters. The picture of the entire mountain range, however, is not unified, and the wealth of varying forms is determined by the change in the rock. The former root surface is, to be sure, heavily destroyed, but it is still always recognizable. In the higher places traces of an old glaciation are to be found everywhere in the form of circus /circular?/ valleys/Zirkustäler/, trough valleys, round basin lakes /Karseen/ and basin moors /Karmooren/, and, in the valleys, deposits of boulders and rubble. Because the Muya Valley lies at the slight altitude of 450 to 600 meters, the slope toward the north is much sharper than the slope toward the south to the Tsipa Valley, which generally has a height of more than 900 meters. The passes are difficult, small in number, and 1,450 to 1,700 high. From the swamps at the foot of the mountain range rise slopes covered with thick taiga. Here the ascent into the narrow valleys overgrown with shrubs is especially difficult. Only at heights where the vegetation discontinues, is there an opportunity for free movement.

The valley of the Muya is determined tectonically as a depression. It attains a width of up to 30 kilometers. A mixture of deposits of old and recent date makes the valley plain appear rich in variety. Hills, long embankments, sand bars with closed off lakes, in between swamps and moors displace one another. Terrace formations on the border of the valley and widely diffused lake sediments permit the basin of a former lake to be recognized in the valley.

The Northern Muya Mountain Range, likewise a horst, is

scarcely to be differentiated from its southern opposite. The valley of the Upper Angara, which opens onto Lake Baykal, has a certain moderation in climate, and accordingly there exist in this valley some agricultural islands occupied by Russians. Otherwise the entire region--apart from hunters and some Reindeer Tungus--is as good as uninhabited. This applies also to the mountain ridges lying farther north, such as that of the Upper Angara, its eastern continuation, /234/ the Delyun-Uramskiy Mountain Range, and the Mama Highland. Only far on the other side of this uninhabited zone, in the southern part of the Patom Plateau on the lower Vitim, are settlements worthy of mention encountered: such as Bodaybo, Leninsk, and Artemovsk, which the wealth of gold there, too, has caused to come into being. But all of these areas already lie outside of Transbaykal and can therefore be mentioned only peripherally. They belong to the sphere of influence of the actual Lena and tend economically toward Irkutsk and Yakutsk.

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The Olekma Mountain Country and Olekminsk Stanovik

With this region we encounter vast areas, which are almost uninhabited in most of the northern part and which are still very little explored. Thus even the relationship of the large mountain chains can still not be clearly laid down. Best known still is the most southerly part, which extends as a narrow strip along the Amur and whose waters also empty into the Amur. Thanks to the Amur Railroad, which runs almost parallel to the river at a distance of 50 to 75 kilometers, these sections are also more strongly incorporated in the economy and brought nearer to civilization.

The eastern border of the province is formed by the Olekma, its right tributary the Nyukzha, and the Amur tributary, the Oldoy. The western boundary is clearly marked only in the north by the Vitim; in the south, on the other hand, between the southeastern bend of the Vitim and the Amur, the border is undetermined since the Transbaykal mountain ranges continue here into the Olekma region without interruption.

The Yablonovyy Ridge pushes between the Vitim and the upper course of the Nercha into the area as far as the middle course of the Olekma directed toward the north. The Yablonovyy here stretches on the northern side of the upper course of the Olekma and divides its tributaries from those of the Kalakan and the Kalar, which empty into

133 the Vitim. The Yablonovyy Ridge thus divides the entire province into the Olekma Highland in the north and the Olekminsk Stanovik in the south. Even if the Yablonovyy Ridge, which many geographers consider to end already at the Karenga, a right tributary of the Vitim, continues as far as the Olekma, as Obruchev believes, and ends approximately opposite the mouth of the Nyukzha, it still has no connection, either from a geological or tectonic point of view, with the Stanovoy, which rises on the other side of the Olekma, as is still depicted falsely on many maps. The direction of the Yablonovyy Ridge runs into that of the Stanovoy almost at a right angle, or at least at a sharp angle. The over-all direction of the Stanovoy goes toward the west on the northern end of Lake Baykal and points rather to a connection with the Muya Mountain Ranges, but in no way to a connection with the Yablonovyy Ridge.

The following three mountain ridges in the Olekma Highland are listed from south to north: the Kalar Mountain Range, north of the river of the same name /235/; then the Udokan Mountain Range, and the Kodar Mountain Range. While the two latter mountain ranges are separated from one another by the valley of the Chara (flowing to the Olekma) and the Koyurla (flowing to the Vitim), the Kalar and Udokan mountain ranges melt into a plateau more than 2,000 meters high, in the east approximately in the middle between the Vitim and Olekma. Here, south of the area around the source of the Kalar, two mighty gol'tsy on the plateau rise to a prominent height. These are the Golets Skalisty' (Rocky Golets), which is 2,800 meters high, and the Golets Snezhny' (Snow Golets), which is 2,515 meters high. According to present-day knowledge, these gol'tsy represent the highest elevations in the Olekma Highland. A more recent report states that in the same Udokan Mountain range a still higher mountain by the name of Typur has been found, which even exceeds 3,000 meters. But nothing else is known about this mountain.

The Kalar, Udokan, and Kodar mountain ranges consist basically of pre-Cambrian crystalline slate and gneiss, which are penetrated by thick intrusions of granite. Only in the valley areas which separate the mountain ranges from one another, are more recent formations to be encountered; for example, in the valley of the upper Chara continental Jurassic is encountered. Although the three valley depressions are very wide and deep in parts, all three mountain ranges, nevertheless, have a symmetrical connection. The Kodar Mountain Range in the north has a flat northern decline and rises toward the south, where it breaks

off steeply at the Chara valley. The Udokan Mountain Range declines steeply on the north and on the south, in short, on both sides, while the Kalar Mountain Range has its steep decline in the north and declines slowly toward the south. 133

The Kodar Mountain Range, as seen from the Chara valley, represents a single closed mass, its high plain character being clearly recognizable. Through erosion this range has been broken into individual blocks. The Quarternary glaciation has contributed to widening and reforming the valleys. Most heavily cut up is the steep southern slope. The gol'tsy resting on the surface of the massif attain an absolute height of approximately 2,000 meters.

The Udokan Mountain Range in its picture shows a far greater unevenness than the Kodar Mountain Range. The former clod is broken up into irregular parts, which lie at various heights. Here, too, erosion has participated very strongly in the destruction of the original forms. Most strongly torn up is the decline toward the east to the valley of the Olekma. The highest places in the mountain ranges, especially in the area where the Udokan runs into the Kalar Mountain Range, received their present-day face through the Quarternary glaciation, whose traces are visible everywhere and give this part of the mountain range an Alpine appearance. But, in addition, there are also level high plains in the Udokan Mountain Range. In these high plains the original form of the post-Tertiary peneplain is visible.

Aside from the parts where it unites with /236/ the Ukokan Mountain Range, the Kalar Mountain Range generally has more high plains and flat gol'tsy, whose slopes are saturated with pieces of rock and boulders. The Kalar has preserved its plateau-like character better than the Udokan Mountain Range. Toward the south the Kalar slopes slowly to the middle and lower course of the Kalar valley.

The greatest part of the Olekma Highland is overgrown with thick taiga; only the high gol'tsy project beyond these forests and are covered with bent wood or tundra vegetation. The highest mountains are without any form of plant growth. The swampiness is generally very great. It occurs most heavily in the level high plains and the valley depressions. The valley of the Chara especially is very heavily covered with swamps, just as generally the valleys opening toward the north suffer more from much too much dampness than the valleys opening toward the south. However, already here lonely Russian settlements are found, in which agriculture is pursued. Tungus reindeer breeders are known in the valleys of the Kalakan and Kalar. [137] [311]

133 Gold streams are mined on the Ketemakhta, a left tributary of the [316] upper Kalar. Connection with the outside world is provided by [487] mountain paths, which lead toward the south to the Mogocha Station on the Amur Railroad.

The Olekminsk Stanovik comprises the entire area around the upper course of the Olekma and at the same time forms the watershed for the Amur. The entire region is described as a forest-covered plateau, whose general height lies between 950 and 1,000 meters. The river valleys are mostly deeply etched, and lie 80 to 200 meters below the surface of the plateau. The ridge between the Olekma and its right tributary the Tungir bears the name of Dzhaliro-Tungirskiy Mountain Range; otherwise individual designations are not known. The watershed for the Amur forms a flat ridge, which generally is only 800 to 900 meters high. Toward the south, toward the Amur, this ridge gives way very quickly to hilly country, which is interrupted by the broad valley areas of the numerous waters flowing into the Amur. The most important of these is the Amazar, whose valley [237] is also used for a stretch by the Amur Railroad. In contrast to the thick larch forests, which cover the bulk of the Stanovik, the vegetation on the slopes inclined toward the Amur includes numerous deciduous trees and thus shows already a more friendly picture. Gold is the 316 most valuable product of the regions. The river valleys between the upper Tungir and the Amazar are especially rich in gold. These valleys are very well opened up because of their nearness to the railroad. The center of gold mining is the city of Mogocha, which has approximately 30,000 inhabitants. It lies on the railroad on the left side of the Amazar. The alluvial sands of the little rivers flowing into the Amur also have gold and, therefore, from early times have [361] enticed many men who then remained in the land. Accordingly, the entire strip of land between the railroad and the Amur is relatively thickly settled. Worthy of mention here is the valley of the Urusha, which is crossed /237/ by the railroad at the station of the same name. In the vicinity of Urusha brown coal deposits have been determined, and, west of Urusha in the vicinity of the Yerofei Pavlovich station (which has more than 20,000 inhabitants), there are also usable tin deposits.

The Oldoy-Zeya Mountain Country

133 East of the area around the upper course of the Olekma, the

Amur country begins with the Oldoy-Zeya Highland. This highland comprises the drainage area of the Oldoy and of the upper and middle Zeya and extends from the Amur into the region of Uda Bay on the Sea of Okhotsk. Turning first toward the north and then toward the east, this region comprises the areas on the lower Zeya and Bureya, i.e., the interior Amur regions, which lie lower and which are for the most part flat.

In the west the region is bordered by the watershed between the Amur and the Olekma, and the Oldoy and Nyukzha; and on the north the region is bordered by the watershed to the Aldan, which runs along on the Stanovoy. The eastern border is formed by the watershed for the Uda and the upper and middle Bureya. The area around the source of the Selemdzha with its mountain chains and the Turana ridge with the Bureya Mountain Range will be discussed later. In contrast to Transbaykal with its rich alternation of narrow mountain chains and valley depressions, here we deal with large relief forms, namely with two long, wide mountain ridges and an almost equally wide depression lying between them. However, the horst form and the plateau-shaped surface of the ridge remain predominant as Baykal characteristics. Thus the region is divided into the mighty, massive Stanovoy in the north, at whose southern foot there clings the extended depression of the upper Zeya; this depression is, then, closed off by a long mountain chain running in a parallel strip. This long mountain chain consists of three parts following one another from west to east: the Yankan, Tukuringra, and Dzhagday. In addition, there is the fourth individual section, the Oldoy Highland in the west between the Yankan and the Amur.

The Stanovoy is generally still very little explored. It is, however, certain today that the former conception of a watershed mountain chain does not correspond to reality, but rather that the Stanovoy represents much more an entire mountain range system, which extend in a continuing width of 100 kilometers or more from the Olekma almost to the coast of the Sea of Okhotsk. According to Tanfiliev (207),

207. Tanfiliev, G.I. Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/. 2 vols. Odessa, 1923.

the Stanovoy system is divided into three relief zones running parallel to one another. Forming the northern edge and lying between soft

•133 forms is a train of numerous, sharply set off groups and series of gol'tsy, which for the most part consist of eruptive stone and then project in especially strongly profiled mountain forms. The middle zone constitutes a plateau-shaped, /238/ /Sketch Showing the Morphological Profile of the Stanovoy Ridge from Bomnak on the Zeya to Great Toko Lake in the area around the source of the Aldan tributary, the Uchur, according to N.I. Prokhorov./ elevated ridge and is very broadly built up. Groups of mountains occur extremely rarely here. The character of a mountain range is often lost entirely, especially in the eastern half, and for the traveler there arises the impression of a vast, rolling plain; this impression is strengthened by the great swampiness and the numerous lakes imbedded there. On this high plain most of the rivers have their beginning, both those rivers flowing toward the north to the Aldan (Lena system) and also those flowing toward the south to the Zeya. The watershed is, therefore, not clearly determined by the relief, but rather it is very jagged. Therefore, many rivers also flow locally in a broad circle along the plateau, such as the Tok River, which follows this direction for more than 50 kilometers before it turns toward the south to the Zeya. The plateau-shaped ridge generally lies at an absolute height of approximately 1,000 meters; the highest places reach 1,300 to 1,450 meters. The northern border zone projects somewhat beyond the high plain, which, however, in the eastern part, north of the source rivers of the Zeya, has more considerable heights. The highest point here is measured at 2,482 meters. The southern border of the plateau again forms a more marked mountain landscape, but here there are only flat groups of gol'tsy without the character of a mountain range, and this section is not built up equally everywhere. As a rule the southern slope is formed by individual plateau sections, flatly inclined toward the south. Between these plateau sections lie valleys, which quickly become wider and which without a break go directly into the depression of the upper Zeya. As Ahnert (17) who crossed the

17. Ahnert, E. von. Zwei Überquerungen der Stanowoj-Wasserscheide /Two Crossings of the Stanovoy Watershed/ (Russian). Geologische Forschungen in den Goldgebieten des Amur-und Küstengebiets /Geological Research in the Gold Regions of the Amur and the Maritime Regions/, Vol. VIII. Petersburg, 1908.

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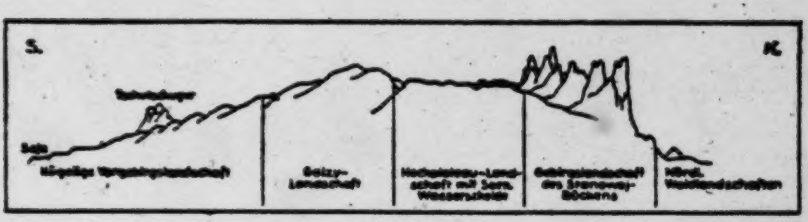

Sketch Showing the Morphological Profile of the Stanovoy Ridge from Bomnak on the Zeya to Great Toko Lake in the area around the source of the Aldan tributary, the Uchur, according to N.I. Prokhorov. The sections of the profile are as follows: Zeya, headland landscape, Chuchugur; gol'tsy landscape; high plateau landscape with lakes, watershed; mountain range landscape of the Stanovoy Ridge; northern forest landscapes.

133 •

Stanovoy in two places, reports, it is characteristic of the entire structure of the Stanovoy that the plateau in the middle slopes both toward the north and also toward the south in step-shaped breaks, which stretch in a latitudinal direction. Also in terms of landscape there is a difference between the two outer zones. In the north the valleys are mostly filled with forest, and only the deepest places are taken up by moss hills and moss swamps, while the heights appear bare of forest and are covered with rock ruins and boulders or consist of smooth, steeply towering, contiguous bare rock. In the south, on the other hand, /239/ all the heights have thick forests, and only the valley areas are without forest, as a consequence of the greater swampiness. In contrast to the rest of the Stanovoy, the area around the source of the Zeya is also mountainous in the south. [137]

South of the Stanovoy stretches the upper Zeya's broad graben depression which is filled with forests and swamps. Opposite it and coming from the west is the valley of the Gilyuy which is significantly narrower. Both are among the richest gold fields in the Far Eastern regions and are, therefore, better known. The valley floors and even the gentle plateau slopes are mostly covered with a thick layer of moss drenched with dampness, while thick larch taiga grows on the better-drained slopes and elevated places. Deciduous trees occur here only very rarely. As a consequence of the predominant permanently frozen earth, there are often moss hills containing ice cores. These hills are often several meters high, and, if they appear in large numbers, they give rise to a landscape similar to a hill tundra. The crossing of such moss swamps is made difficult by the fact that the frozen earth has gaps, probably because of warm springs, and, accordingly in such places one can sink to unfathomable depths. Where gold mining is pursued, the taiga as a rule is destroyed beforehand by forest fires set off intentionally. The taiga thus gives way to a horrible, plundered landscape, in which there are numerous, deserted huts, which, overgrown with bushes, are falling into ruin and increase still more the despair of the picture. The region does not have larger localities. There are some villages, such as Potekhino and Bryatan in the center of the depression, in which there are larger supply warehouses from which the widely scattered settlements of gold washers are supplied. The extraction of gold, now run by the state, brings rich yields and has made the depression into one of the most important gold areas in the Far East. The gold streams lie along the Zeya and the Gilyuy and their tributaries. The very great swampiness and the existence of

[316] [137] [361] [316]

133 permafrost, however, create great difficulties. Development of the area is hampered by the area's remoteness and the difficulty of gaining access to it, since the break-through valley of the Zeya toward the [505] south represents the sole gateway to the depression. To date the supplying of the area has been done on the water route as far as the locality of Zeya, for the Zeya River is navigable to this point. The [491] supplies are then brought by vehicles further up the river. The area around the upper course of the Gilyuy is crossed by the highway from Never to Yakutsk. This highway crosses the Tyndinsk, a tributary of [496] the Gilyuy, at Tyndinsk. The new Baykal-Amur Railroad, coming from the Nyukzha valley, is also supposed to enter the valley of the Gilyuy at the same place and to follow the Gilyuy as far as the Zeya, in order then likewise to use the Zeya's break-through valley as an exit toward the south. The laying of this railroad line through the Zeya-Gilyuy depression is expected to lead not only to better opportunities for exploiting the gold fields but also to the use of the rich supplies of wood in the forests, and finally also to better settlement of the area.

/240/ The depression of the upper Zeya and Gilyuy is cut off into a vast basin on the south by a watershed mountain chain. The Zeya is the sole river flowing off to the south in this basin. This mountain chain is regarded as a continuation of the Daur and the Shilka mountain ranges; it stretches from Transbaykal via the Olekminsk Stanovik to the depressions of the Amgun (left tributary of the lower Amur) (207). This entire line of mountain ranges was, according to

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, 2 vols., (Odessa, 1923), p. 250.

Ahnert (16), formed partly by faulting but principally and especially

16. Anert /sic/, E.E. Kratkii geologicheskii ocherk Priamuria /Short Geological Sketch of the Amur Region/. Geological Research in the Gold Regions of Siberia, Vol. XVII. Petersburg, 1913.

on the southern edge, by break formations. Within the Oldoy-Zeya Highland the chain of mountain ranges begins in the west with the Yankan Mountain Range, which lies between the upper courses of the

Oldoy and of the Great Urkan. Without a prominent delimitation the Yankan extends out from the Olekminsk Stanovik toward the east and also shows a gradual transition through the dissolution of the plateau-shaped surface, both toward the north to the area around the upper course of the Gilyuy and also toward the south to the Amur. The Tukuringra Mountain Range stands out far more sharply in its isolation, since it forms the demarcation line between two marked depressions, i.e., between the already mentioned depression on the upper Zeya and the Gilyuy in the north and the wide Zeya-Bureya plain in the south, which here projects toward the north as far as the foot of the mountain range. The Tukuringra Mountain Range consists principally of metamorphic rock and in part of gneiss and crystalline slate. It is heavily cut up by extensive erosion and divided into individual massifs, which in part also go back to vertical dislocations. The surface is characterized by the usual plateau form with peaks and gol'tsy set on it. The gol'tsy often stand close to one another and not uncommonly form a middle mountain range landscape with significant differences in height. The general height of the plateau area is 900 to 1,000 meters, while the peaks project 500 to 600 meters beyond this. A great part of the mountain range is covered with thick taiga, and only the highest gol'tsy are without forests. Accompanying the Siberian types of trees are numerous deciduous trees on the southern slopes. These deciduous trees give a more friendly stamp to the picture of the landscape. However, along with the moderation of the climatic conditions, an extraordinarily thick underwood sets in at the same time. This underwood is very much of a hindrance to man's advance, and, accordingly, despite the lighter colors, the landscape's animosity to cultivation remains here too--a quality which especially distinguishes all these mountainous regions.

133 [137]

From the Dep River, a left tributary of the middle Zeya, the continuation of the chain of mountain ranges toward the east bears the name of Dzhagdy Mountain Range. A cross-connection from it toward the north to the Stanovoy forms the eastern cut-off of the upper Zeya depression and at the same time the watershed between the Zeya and the Uda. This remote mountain barrier is as good as not explored at all. In its central part it is supposed to be 2,000 meters and more high. The Dzhagdy Mountain Range itself continues generally toward the east with a change several times in its direction. /241/ It divides the drainage area of the Uda from the Selemdzha, the largest left tributary of the Zeya, and then goes over into the Bureya Highland, whose

133 northern edge it represents.

The Oldoy Highland is the smallest part of the region as a whole, and it comprises the area between the Yankan Mountain Range and the Amur. Already from the region around the source of the Oldoy toward the south the landscape flattens out and dissolves into individual ridges, mountains, and valley areas, giving the overall impression of a mountainous and hilly landscape. Toward the southeast, between the Urkan and the Amur, the broad hill ridges gradually disappear altogether, and the landscape here flows into the so-called Amur-Zeya plateau, which already belongs to the greater landscape of the Zeya-Bureya plain area.

491 496 The Oldoy Highland is traversed in the north by the Amur Railroad, from which a railroad line to the Amur harbor of Dzhalinda branches off in Skovorodino (more than 20,000 inhabitants), the seat of a railroad office. Thus, in terms of transportation, this region is quite well opened up. This is also true of the most heavily populated parts within the overall region. The alluvial sands of the rivers to the north of the Amur Railroad, especially the valleys of the upper Oldoy, and of the Great and Lesser Urkan, are rich in gold. The built-up highway which is mentioned above and which can be used throughout the year, leads from the station of Never (around 10,000 inhabitants). This highway crosses the Tukuringra Mountain Range and the Stanovoy in its western part and goes via the Aldan gold fields to Yakutsk. It reaches Tyndinsk in the area around the upper course of the Gilyuy. This important highway has recently been supplemented by a railroad line from Skovorodino to Tyndinsk, where there is a spur to the great Baykal-Amur Railroad (BAM). With this a direct cross-connection between the Amur shipping and the BAM is supposed to be created. The new railroad line, in addition, opens up new areas for settlement, just as the construction of the Amur Railroad has become a pacemaker for heavier settlement by an agricultural population. Also in the less swampy valley areas between the railroad and the Amur River agriculture is 361 pursued relatively actively. Accordingly, a lively food industry and also machine building shops and repair shops have been able to develop in Skovorodino, which has already been named as the center of the Oldoy Highland. Brown coal, which is mined in the vicinity, is used as the raw material for energy. To the north of the city tin supplies [509] have been determined. An airfield in the vicinity connects Skovorodino to the great airline running from Moscow to Khabarovsk to Vladivostok.

The Zeya-Bureya Plain

This area is the section of the Amur country which is the richest 133
in population and which is the best opened up economically. The easily accessible plain, the milder climate, the fertile soil have from early times /242/ caused a relatively heavy population to settle here, and pursue agriculture. This plain is the granary of the Amur region; 80 [311]
percent of the total area under cultivation in the region lies here.

The region falls into two sections: the Amur-Zeya plateau in the west and the great Zeya-Bureya lowland, which extends east of the lower course of the Zeya along the Amur as far as the Bureya Mountain Range.

The Amur-Zeya plateau takes up the western part. This plateau stretches between the Zeya, its tributary the Urkan, and the Amur. The plateau declines slowly from the northwest to the southeast; the interior sections are gently rolling open country; on the other hand, the rivers toward the outside have dug deep gorges. The plateau breaks off sharply toward the lower Zeya and toward the Amur. On the right bank of the lower Zeya the decline becomes 180 to 240 meters deep and, with its heavy gorge formations, gives the impression of a mountain when viewed from the eastern "meadow shore." On the Amur the plateau lies 100 to 120 meters above the river at most, but only very rarely does the plateau come near the river. Here between Chernyayevo and Blagoveshchensk, the Amur valley has four terraces. The lowest one is exposed only when the water is low. Adjoining it with a step up of 4 to 6 meters, and, in places even 8 meters, is the meadow terrace with sandy, gravelly, and muddy deposits. This terrace is considerably wider and is regularly flooded when the water is high. The next middle terrace lies 10 to 20 meters above the normal water level and also breaks off precipitously toward the second terrace mentioned above. Forming a steep bank, this terrace also goes right to the path of the water in many places. There are already settlements in many places on it. The fourth or upper terrace attains a height of 50 to 60 meters and is less clearly set off. The northwestern [137]
part of the plateau still has a thick forest covering, but here the percentage of deciduous trees is very considerable. Toward the southeast the thickness of the forests decreases, and they gradually give way to a type of forest steppe. Characteristic of this section are little birch forests and extensive swamps and swamp meadows. Accordingly, livestock breeding predominates among the Russians settled here.

361 Only in the southeast in the triangle between the Amur and the lower Zeya is there an agricultural settlement covering an area of any size. In the rest of this region a zone of settlements with many gaps accompanies the Amur and the railroad.

496 The Amur Railroad runs approximately along the middle of the plateau and uses the watershed exactly, since along the watershed there was, for understandable reasons, the best and the easiest opportunity for marking off. A branch railroad, 38 kilometers long, leads from Ushumun station to Chernyayevo on the Amur, in the center of a region with great prospects for the future, for here only a few years ago hard coal deposits were determined. These deposits stretch along the left side of the Amur between its tributaries, the Urinda and Magdagachi, i.e., approximately around the locality of Chernyayevo mentioned above. The coal is of Jurassic age and lies in individual anticlines, which stretch toward the northeast. Although, judging from individual tests, the ash content of the coal is supposed to be great, the deposits have a prominent significance because they lie in a region /243/ /Sketch Map of the Amur Oblast:/ which formerly had to be supplied with coal from a great distance. In some places the coal-bearing layers are broken through by granite laccolite and porphyry effusions, and thus the coal here has been transformed into valuable semi-anthracite and full anthracite. Nothing is known of the total supply in the deposit designated by the Russians as the "Upper Amur Coal Basin." There are numerous outcroppings on the Amur and in the individual river valleys. Very recently the mining of the coal deposits in the vicinity of Madgagachi has begun.

135

361 The principal locality in the northwestern part of the plateau is Magdagachi (approximately 10,000 inhabitants); the principal locality in the southeastern part is Shumanovskaya (approximately 25,000 inhabitants). Both of these towns lie on the Amur Railroad. [487] The Tygda station between Madgadachi and Ushumun has greater significance in terms of transportation. A land route leads from Tygda via Ovsyanka, which lies at the point where the Zeya and the Urkan flow together, to the Tukuringra break-through of the Zeya. This is the shortest land route connection from the Amur Railroad to the gold fields on the upper Zeya and the Gilyuy.

•133 /244/ East of the lower Zeya begins the Zeya-Bureya Lowland, which stretches toward the east along the Amur over a broad area extending beyond the lower course of the Bureya. The end of this low plain is prepared by the high embankment of the Bureya Mountain

Range, which here goes up to the Amur. Toward the north the plain 133[8]
extends into the river area of the Selemdzha as far as the spurs of the Tukuringra Mountain Range. Vast plains, formed by Tertiary fresh water deposits, warm, damp summers, extensive agriculture, a heavy population, numerous villages and little cities--all these are the main distinguishing marks of this region.

The southern part along the lower courses of the rivers is almost completely level and is often covered with old waters, swamps, and lakes. But even here dry islands rise in long, flat waves in the areas between the rivers. Morphologically, however, these dry islands are scarcely striking in the plains which generally predominate. Instead, something of a change in the vast monotony is brought by the paths of the rivers, all of which have a marked steep right bank which though not high, is still heavily gorged. The left meadow shore, which mostly is covered with swamps, then rises gradually to the watershed areas. The Bureya continues to show this asymmetrical shore formation even far into the mountain country. North of the Tom', a left tributary of the Zeya, the relief changes. It becomes rolling, hilly, and rises gradually toward the north. Here ends the contiguous 133
meadow steppe, which in its natural state has grasses as tall as a man 137
growing on it. These grasses have brought the steppe the name of "Amur Prairie." This meadow steppe makes way for a magnificent, peculiar forest steppe, in which the hills and high places are covered like islands with oak forests or bushes, while the meadow steppe continues in the lower spots. The dampness of the soil decreases, even though in spots there are often swampy places in the loamy soil. With the further rise toward the north the differences in height become greater, the valley areas become deeper and narrower. Coniferous trees appear on the mountains. The swampiness of the valleys begins to increase again. Slowly the dark taiga takes possession of the entire land, while in the background the rocky peaks of individual gol'tsy already rise from the contiguous greenery.

The significance of the Zeya-Bureya plain is based on the 134
extraordinary fertility of its soil. Tomashevskii (219) has investigated

219. Tomashevskii, I. I. Pochvy iugozapadnoi chasti Zeiskobureinskogo vodorazdela /The Soil of the Southwestern Part of the Zeya-Bureya Watershed/. Works of the Amur Expedition, Vol. XV. Petersburg, 1912.

Region/. Pochvovedniie, 1911.

•133 The northern part of the Zeya-Bureya plain lies generally below 500 meters above sea level and declines toward the lower Zeya and the Amur, /247/ /Sketch Map:/ /248/ where the greatest part lies at less than 200 meters above sea level. At Blagoveshchensk the Amur has a height of 120 meters. In individual places the substratum comes out from the flatly deposited Tertiary layers in the form of individual rocks, which consist of granite, Jurassic conglomerates and Jurassic sandstone, or also of porphyry.

The great dampness of the Zeya-Bureya plain, which arises from the excessive summer rainfall, leads in the unlevel regions to hanging landslips and solifluction phenomena of manifold types, which cause great difficulties in the construction of roads and installation of railroads, especially when--as, for example, in the country of mountain spurs--permafrost appears. The peasant fights constantly against threatening swampiness by draining his land. Despite these [311] difficulties, the area under cultivation is increasing continually. The swamps, which as a rule are covered with clusters of grass, are turned into hay fields by fires set off every year, and these hay fields in turn are then turned into cultivated land.

361 Settlement is very thick, and in the valley area of the Zeya, Selemdzha, and Bureya it penetrates farther and farther into the interior. In the plains one can often see from one village to the next one. The settlements differ in no respect from those in the Russian homeland. And when in mid-summer sunflower fields glow between the yellow gold of wheat fields, one might feel himself transported [248] to southern Russia. The cultivation of soy beans and perilla, which here lays claim to a significant percentage of the area under cultivation, [496] appears foreign, however. The railroad crosses the Zeya at Svobodnyy (10,000 inhabitants), where an active wood industry has developed. A branch railroad, which is 108 kilometers long, leads from Kuybyshevska with its more than 10,000 inhabitants to Blagoveshchensk (58,700 inhabitants), the capital of the region. The city extends along the shore of the Amur for a distance of almost 8 kilometers, toward the mouth of the Zeya. The Zeya here is 2 kilometers wide and exceeds even the Amur into which it flows. The city is the center of the entire agricultural area and has numerous flour and oil mills. In addition, the processing of lumber also plays a large role. The lumber is floated here on the Zeya and the Amur. Opposite Blagoveshchensk,

on the Manchurian side, lies the city of Heino (Sakhalyan), from whence there is a spur to the railroad network of Manchuria. The area around the lower course of the Bureya has the same character in terms of landscape as do the plains on the Zeya. The nearness of the highland permits the basic rock to come out more often here. The population is likewise dense and in the valley of the Bureya penetrates farther toward the north into the highland. The center of the region is the little city of Bureya, which lies at the point where the railroad crosses the Bureya River. A railroad line, which is 43 kilometers long, branches off from here to Raychikhinsk, the center of the largest brown coal deposit in the Amur country. Zavitaya, from which a new railroad line has been built to Poyarkovo on the Amur, /249/ has acquired a growing importance during the most recent period.

The brown coal fields lie between the railroad and the Amur and stretch from the Bureya in the east to the Zavitaya in the west, covering an area of 600 square kilometers. Raychikhinsk and Kivdinskiy are the centers of the coal mining. The transporting of the coal is done for the most part by railroad to the Bureya station, where there are opportunities to transfer the goods to river shipping.

The northern part of the Zeya-Bureya plain is drained primarily by the Selemdzha. The population here decreases rapidly toward the north, and settlement is limited to the valley areas of the rivers. On the Zeya, settlement reaches to the town of the same name at the foot of the Tukuringra Mountain Range; and on the Selemdzha, settlement ends approximately at Norsk. Both rivers are regularly traveled by steamships as far as the localities named. With the new construction of the BAM, which goes from the middle Zeya and runs through the area toward the east and crosses over the Selemdzha at the locality of Norsk mentioned above, new prospects have opened up for the further development of these regions, which are favorable for settlement but which in the past were too remote.

The Bureya Mountain Country

The Bureya Highland has a central position in the Amur country. It forces the Amur to make its large southern bend; and, in the south where it joins the Little Khingan, it makes a path to the east free for the Amur only in a narrow break-through valley. In the same place the Bureya Highland shoves itself like a wedge into the great depressions running along the Amur and separates the Zeya-Bureya plain in the

•133 west from the depressions on the lower Amur and Amgun.

For the most part the highland comprises, as its inner zone, the drainage area of the Bureya, which also is bordered by the two main chains of the highland: i.e., in the west by the Turana Ridge, which is the watershed toward the Zeya, and in the east by the Bureya Mountain Range, which represents the watershed toward the lower Amur.

The Bureya Mountain Range forms the backbone of the highland. It begins on the Amur as the continuation of the Little Khingan which stretches from Manchuria over the river toward the northeast. The Bureya Range is, therefore, also known under the name of Little Khingan. But here the Russian geographers, who designated the mountain chain generally as the Bureya Mountain Range, are to be followed. These mountains run principally toward the northeast, though the direction of individual sections changes from place to place. This continues until the mountain range runs into the already mentioned Dzhagdy Mountain Range, which comes from the west. Here in the north individual sections are known under special names: thus, the Duse-Alin', which in an arc surrounds the left source river of the Bureya (Levaya Bureya), and, adjoining the Duse-Alin' on the north, the Yam-Alin', which flows into the Dzhagdy Mountain Range. The Tam-Alin' and the Dzhagdy border on the north and the east the gold-rich area /250/ around the source and the upper course of the Selemdzha; while from the southern part of the Yam-Alin' a mighty massif, forming a watershed, shoves in toward the west between the Selemdzha and the upper Bureya. Here in the northern part of the Bureya Highland, where immense high plateaus unite in a narrow area, there also lie the highest elevations of the Bureya Mountain Range and also the highest elevations of the entire highland. The Yam-Alin' has several peaks which project 2,000 meters. Its highest point reaches 2,215 meters. Also the watershed massif between the sources of the Selemdzha and the Bureya has several gol'tsy, which are only a little inferior to the Yam-Alin' peaks and which project between 2,115 meters and 2,155 meters.

316 The area around the source of the Selemdzha is rich in gold and has gold-washing installations, which are in part mechanically run. But the remoteness of the region causes the very great difficulties

505 to the works which are directed by the state. The primary supply route is the Selemdzha, which is regularly traveled by steamers as far as Norsk, often designated as Norskiy-Sklad. And under favorable conditions the Selemdzha is even traveled as far as Selendzhinsk.

conditions the Selemdzha is even traveled as far as Selemdzhinsk. 000
But then begins a land route which is 250 kilometers long and is 487
laborious to travel. At the end this land route reaches the high-lying gold fields with steep ascents.

From the mighty complex of the high plateaus, which surround 133
the area around the source of the Selemdzha, the highland gradually declines toward the south. The surface of the Bureya Mountain Range is only 600 meters high on the upper course of the Amgun and of the Tunguska (a left tributary of the Amur), and only individual gol'tsy rise to heights of 1,000 meters. The Amur Railroad crosses the mountain range in the Lagaraul Pass at a height of 452 meters, and on the Amur itself the highest mountains only reach a height of 200 meters. The mountains here come in a broad front directly to the river, which breaks through the Khingan-Bureya Mountain Range here between Pashkovo and Yekaterino-Nikolskoye in a narrow valley which is 150 kilometers long. The great masses of water are pressed together here by steeply declining, often bare rocks, which come together in places to form a narrow corridor with high, almost perpendicular walls.

The general impression of the Bureya Mountain Range differs little from that of the Zeya Highland. Here, too, the basic forms permit the plateau-shaped surface to be recognized, and projecting from this plateau surface are numerous gol'tsy. However, all parts of the mountain range here show greater effects of erosion, which undoubtedly goes back to the heavier rainfall. Almost all the rivers, at least in their upper courses, flow in narrow, rocky, deeply etched gorges as long as they remain in the sphere of the plateau-shaped elevations. Then the valley areas quickly widen, and, even though they are often still accompanied by steep, rocky slopes, the valleys extend between the gently inclined slopes of the swampy plateau. But also in the lower places there are still individual cones or summits sitting on the plateau.

The vegetation of the Bureya Highland is /251/ unusually 137
varied. The reason for this lies not only in the changing relief but also primarily in the fact that the elements of three flora regions meet here, namely the East Siberian, Okhotsk, and Manchurian flora regions. In the northern parts of the highland on the mountains and slopes at a height of 600 to 900 meters there are thick forests which consist primarily of Ayan spruce (Picea ajanensis) and fir with white bark (Abies nephrolepsis), with a small number of birches intermixed. The low temperatures, the cool fog, and the strong, damp winds which blow

Mountain Range to the upper course of the Tyrma and then follows this river to the point where it empties into the Bureya. The railroad had already been completed as far as Ust'-Tyrma in 1942. Since then the construction of this railroad, which now runs parallel to the course of the Bureya, has been continued via Chekunda to Umal'ta. With this an outlet has been created for Bureya coal toward the south to the Amur Railroad, but the waterway of the Bureya is also used to transport the coal away. The expansion of this waterway is being worked on. In addition, there is the fact that the Baykal-Amur Railroad also crosses the same region. This railroad leaves the Selemdzha at Norsk, crosses the Turana Ridge and reaches the middle course of the Bureya at Chekunda, to continue further over the Bureya Mountain Range to Komsomol'sk.

The construction of both these railroads in the sphere of the Bureya Mountain Range has above all an industrial significance. Next to coal, wood is the most important item for transport which this region can supply. In the traffic going the other way, the bringing in of food is probably the main task of the railroads. The Bureya also plays a certain role in this connection; for, according to various reports, continuous loads of grain go up the river during the period when it is navigable. The supplying of the new Bureya coal region must be assured from outside because the Bureya valley itself is very unfavorable for agricultural settlement. Everywhere here the Bureya has the character of a mountain river. Its valley between Ust'-Umal'ta and Ust'-Niman is up to 3 kilometers wide, but the river, which here is very wild, regularly floods a part of this country and causes extensive swampiness. From Ust'-Niman to Chekunda the right bank is steep and rocky; the left bank is, to be sure, level, but it is taken up by swamps which are difficult to travel. Below Chekunda as far as the settlement of Paykan the valley narrows, and on both sides the rocky mountains come right down to the shore. Only shortly before leaving the mountain ranges does the valley meadow widen into an area favorable for settlement. Thus the prospects for agrarian settlement in the area of the Bureya valley are not very good, and it will require long years of difficult cultivation work before the new coal mining region will be able to supply its own food.

If we survey the entire Bureya Highland, then, it can be determined that, apart from the spottily occupied gold regions in the north and apart from the Bureya and Tyrma valleys which are now filling up with people in a limited area, the other regions are as good as

361 uninhabited except for in the southern part. Heavier settlement in terms of area covered can be found only in the southern part of the highland, where a contiguous belt of settlements meets us both along the Amur River. While the belt of settlements along the Amur River is certainly purely agricultural, industrial activity is to be encountered along the railroad in the area of the Bureya Mountain Range. In Bira 316 hard coal is mined /253/, iron ore lies west of Bira in Kimkan, and farther on in the vicinity of the railroad there are known to be supplies of magnesite, manganese, and fluorspar. Gold is also there and is extracted from the gold streams of the Sutar valley. This sourthern part of the Bureya Highland belongs to the Jewish Autonomous Oblast. It will be discussed in context in the following chapter.

/Sketch Map of the Jewish Autonomous Oblast/

The Amur Plain

•133 This region extends from the eastern slopes of the Bureya Mountain Range to the shore of the lower Amur, and it forms a vast lowland covered with meadow steppe. This lowland is scarely inferior to the Zeya-Bureya plain in the luxuriant growth of grass. The mean height of the plain is 45 meters. On the eastern side of the Bureya Mountain Range there run parallel to this range some mountain ridges, which go beyond the 1,000 meter mark only in the rarest of cases, such as in the Badzhal'skiy Mountain Range.

The Amur plain is regarded as a continuation of the Ussuri-Khanka depression and represents a graben zone, which is set between the Bureya Mountain Range on the west and the Sikhote-Alin' on the east.

The plain itself is divided into the flood area, which can be from a few kilometers up to 20 kilometers wide, and the real plain, which begins with a step. Only the edge of the plain is cut up by the rivers; otherwise the plain is for the most part completely flat and toward the mountains goes gradually over into a hilly landscape. The country on the right bank of the Amur below the mouth of the Ussuri is more varied in form /254/ because of the spurs of the Sikhote-Alin'. This area is generally higher, and its landscape is gently rolling to hilly.

Even though the external picture of this area recalls that of the Zeya-Bureya plain, the Amur plain, nevertheless, differs because of its greater swampiness, which goes back in the first place to the damper

climate and then also to the great masses of water which flow together here in the Amur, Sungari, and Ussuri. With the relatively low position of the plain these great masses of water permit the ground water to rise very high to the water level of the rivers. The swampiness is also fostered by the old sea deposits lying in the ground of the plain. These sea deposits mostly form a solid, impermeable layer of loam. In addition there is a further difference, which lies in the state of development of the landscape. In contrast to the thickly settled, cultivated landscape of the Zeya-Bureya plain, the Amur plain is occupied only in its southern part and here, too, only in strips--along the railroad and along the Amur. The largest part, especially the area below Khabarovsk, is only sporadically occupied by settlements, which here completely disappear in the vast natural landscape.

After the break through in the Bureya Mountain Range, where the Amur is in places compressed to a width of almost 500 meters, the river expands to a true lowland stream. The banks become low and move back, numerous islands, often of great length, occur and divide the river into very many arms. Normal widths of 2 to 5 kilometers are no longer a rarity. The Sungari, which the Amur takes in here from the right, comes far from the south of Manchuria and brings warmer water to the Amur; accordingly, the Amur below the mouth of the Sungari becomes free of ice earlier and also remains open longer. Forty-five kilometers above Khabarovsk and the real mouth of the Amur, the Amur receives the Kasakevichevsk River, the first arm of the Ussuri coming from the south.

The Khabarovsk plain spreads out opposite the mouth of the Sungari and the Ussuri. Thick layers of loam form the base here and, through their impermeability, cause the area's great inclination toward swampiness. As a consequence of this, the areas near the rivers are the least suitable for agriculture, which occurs first on the somewhat higher, better-drained land. In contrast to the Zeya-Bureya plain, therefore, vast areas here remain swampy meadow steppes in their natural state and are used as meadows or hay fields. However, dry ridges and mountain groups also appear in the middle of the Khabarovsk plain. These ridges and mountain groups consists of Paleozoic layers (carbon) and are covered with forests. Their absolute height often reaches 500 meters.

The entire area within the arc of the Amur from Pashkovo to the mouth of the Ussuri belong to the Jewish Autonomous Oblast. Northern border runs north of the railroad line. The oblast covers 36,800 square

vegetables and the breeding of dairy livestock predominate. 000 133

Below Khabarovsk the Amur plain continues toward the north. Here the Amur first develops to its full size. At the city the height of the water level fluctuates between 23.97 meters and 40.20 meters (above sea level), and only a little below the city the river in places goes 10 to 20 kilometers beyond its normal borders when the water is high. In great windings, the river flows on, often making curves and loops of 10 kilometers and more where the direct route would take up only a fraction of that. Numerous old waters and arms follow the main stream. The Tunguska is formed by the two rivers, the Kur and Urmi, /256/ and flows into the Amur from the left. Until a short time ago its lower course was an arm of the Amur; the Tunguska, therefore, has the same river valley and, for the greatest part of its course, flows parallel to the Amur. When the water is high, the upper part of the Tunguska is connected directly with the Amur. Further down the elevations emerging there force the Amur into narrower paths. But again and again the Amur uses every imbedded plain to break up into numerous arms and to fill lake-like structures with its water. With the Kizi and Kada lakes the Amur comes within a few kilometers of the sea coast. Here the mouth of the Amur may once have been located, before an elevation of the ground cut off the exit and forced the masses of water to grope their way further toward the north through a mountainous-hilly country until, after taking in the Amugun, the water found its present way out. Kizi Lake, which is united with the Amur by a natural connecting canal, lies only 15 kilometers from the Tatar Strait and is separated from De-Kastri Bay only by low hilly country, whose greatest height is 155 meters. At this spot a canal from Mariinskoye on the Amur to De-Kastri Bay could shorten the path of the Amur to the sea by around 280 kilometers. This passage has been planned several times.

The Amur plain also continues in the same shape toward the north along the lower course of the river. However, the picture here is much more determined by the flowing waters and the imbedded lakes than in the Khabarovsk plain. In the vicinity of the river, however, the monotonous character is interrupted by elevations and depressions, which line the river. The elevations have the appearance of long extended hills and embankments and are often up to 10 kilometers long. They are old shore embankments, which mostly lie 14 to 16 meters above the normal level of the water and which, therefore, are no longer reached by the floods. These elevations are in part overgrown with

133 meadows on the river, otherwise they are covered with spotty clumps of grass. Where this grass is destroyed, the loose sand shows through, and the wind blows this together into dunes. The shores of the rivers are flat and predominantly covered with meadow, over which the high water extends. The old shore embankments are of greatest importance for human settlement; the broader ridges are as a rule plowed up and used for vegetable gardens, while the areas which become flooded serve as meadows or are used as hay fields. Now and again the entire plain is narrowed down by approaching mountains, or the plain widens to a great breadth with the neighboring depressions adjoining it. In such an area, in wide, swampy surroundings, lies the very flat Lake Bolon' which is 1,200 square kilometers and which is connected to the Amur by a broad water stream. The water level of the lake follows that of the Amur, and when the water is high even a backward flow is to be observed. At Komsomol'sk the hilly mountains come right down to the river on both sides and force the river into one continuous bed. Here ends the contiguous line of the real Amur plain with its magnificently flat relief, /257/ and an irregularly formed landscape begins. Nemerous rows of hills and chains of mountains with heights of up to 500 meters, indeed, even up to 900 meters, make the general picture more lively. The Amur again and again gains in area and widens often like a lake with numerous islands in the broad valley areas and forms in its neighborhood standing water in the form of long lakes in individual basins and old river beds. Despite this, the overall character of the far more broken up Amur plain is determined by the tributaries, which flow into the Amur from both sides in long, often curved, wide valley areas and which increase still more the degree of dividing up of the country. First to be mentioned in this connection is the valley of the Gorin, which extends into a broad depression in the hinterland and which conceals there the big Lake Evoron. Further down are the plains of the Limuri and Pilda; the area around the upper course of these rivers is known for its gold sands. Finally there is the extended valley of the Amgun which is more than 800 kilometers long. The general landscape picture changes its face but little toward the north. Meadow steppes, overgrown with high grasses, are also still typical here, even though the ground becomes ever damper toward the north and the swampiness increases. The same applies also to the appearance of broad-leaved deciduous trees within the forested areas; these forests represent characteristic mixed forests on the lower hills and mountains. In the direction of the

[311] [135] 133 137

Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary, on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

• 133 lie the main fields for producing food in the entire Ussuri country. Thus we can contrast the natural landscape of the Sikhote-Alin', which for the most part is still untouched, with the cultivated landscape of the Ussuri-Khanka depression.

/260/ The Sikhote-Alin' belongs to the more recent peripheral formations of the Asiatic continent and represents the elevated eastern edge of a sunken land step. It lies between the Sea of Japan and the Tatar Strait, on the one side, and the depressions of the Khanka Lake, of the Ussuri, and of the lower Amur, on the other side. The Sikhote-Alin' consists of a series of up to eight parallel mountain ridges which stretch toward the north-northeast. The mean height ranges between 700 and 1,000 meters. In the northern section individual heights reach up to 1,300 meters, in the area around the sources of the Bikin and the Iman some mountains project 1,500 meters, and in the south in the area around the upper course of the Ulukhe the highest elevation to date has been measured as 1,845 meters. According to a recent publication (Suslov), the highest mountain has been determined now to be the Golets Komarov in the area around the source of the Koppi. This mountain has a height of 1,940 meters.

The watershed between the Ussuri and the ocean is strongly inclined toward the latter. In this the watershed chains are not always the highest. The area around the source of the Ussuri and also that of its largest tributaries, the Iman and the Bikin, lie not far from the coast. In the central and northern section the conditions are much more complicated. There is no mountain range which is the bearer of the watershed; rather the watershed changes constantly and irregularly from one ridge to another. Often it occurs that rivers which flow into the sea or into the Ussuri-Amur have their origin on the opposite side of a mountain chain, move first in the direction of the long axis of the Sikhote-Alin', then reach the next valley through a breach until--often after several cross passages--they decide on a final exit from the system of the mountain range. Decisive for the peculiar course of the rivers is not only the relief but also the rock. Both are the cause of the broken lines of the courses of the rivers, which are characteristic of all of the Sikhote-Alin'. Accordingly, the rivers also often change their character. Following a quiet course are breaches, gorge-like valleys, waterfalls, river rapids, and then shortly thereafter the river will again flow quietly and calmly for a while. Thus there is generally a very unequal and irregular hydrodrographical picture.

The entire interior is taken up by contiguous mountain massifs, which extend without interruption as far as the ocean, where they break off at the coast with steep rock steps. The heavy weathering effects of the raw and damp climate and far-reaching powers of erosion of the rivers, which are short but flow down to the coast with great drops and whose erosion basis has changed several times because of vertical movements, have so heavily cut up and changed the ridges near the coast that from the sea these appear to be a high mountain range. The interior itself, however, is monotonous. If one looks out from one of the higher mountains, approximately in the sphere of the watershed chains, the eye encounters a vast series of more or less long chains, stretching predominantly in a north-northeasterly direction. /261/ These chains consist of an almost unending series of accumulations of lower peaks which rarely appear bare and mostly are covered with thick forests. Nowhere is the climatic snow border reached. Where snow lasts until August, indeed, even until September, it occurs in the protection of depressions under the crown roof /Kronendach/ of the taiga. Often, however, the regularity of the mountain chains disappears. Cross-bars connect the individual parts, which stretch toward all four points of the compass. The landscape, however, has a different face where, as in the environs of the Soviet Harbor (Sovyetskaya Gavan') or in the central region on the upper Bikin, basalt and other eruptive elements have poured forth and with their effusions have formed almost level surface forms which often cover many square kilometers. Here the valleys are deeply etched like canyons. The walls decline steeply, often in steps. The high plains break off suddenly, so that, when one is on a high plain, one can for some distance overlook a narrow valley until one unexpectedly stands on the edge, from which the steep wall forms a sharp decline, descending not uncommonly a hundred meters and more. But in the other sections steep projections are also not lacking since the rise to the passes and high plains is mostly very difficult, less so from the west but very difficult from the coast.

Generally striking are the forms of destruction, in which the effects of the monsoon climate are demonstrated. These effects are especially prominent in the south. The effects of the monsoon climate are expressed particularly in the formation of the cone-shaped mountains, which are very numerous in the Sikhote-Alin'. Mostly, however, the mountains are cores such as we find on the Murayev-Amurskiy Peninsula where the cores consist of porphyry and its tuffs and project as individual

• 133 mountains from the Lower Jurassic sediments. The heavy effects of erosion have been furthered by the rapacious deforestation in the past, which has denuded of forests all sections of the mountain range in the vicinity of the cultivated zone. Also the typhoon-like storms which rage over the southern part of the Sikhote-Alin' every year and often destroy the wood supplies of whole areas, contribute to the fact that the floods of rain can attack the slopes more easily, and thus the dissolution of the forms increases. Worthy of note are the great boulder slopes and stone slopes. Many may well represent prehistorical forms and may stem from earlier climatic periods of a different type from today's, but their formation is also essentially determined by the heavy erosion and the great dampness of the present-day monsoon climate. Often, in the regions around the upper courses of rivers, valleys are to be observed which are torn out as narrow, deep gorges and which have steep slopes which are fully covered with stone heaps. Often a footstep is enough to cause these stone heaps to precipitate down into the valley. Many valleys are notorious for their falling stones and their landslides, and not uncommonly it occurs that narrow gorges are entirely filled up with stones and broken wood. In the regions around the upper courses of the rivers, therefore, the springs and brooks very frequently flow invisibly under rock ruins and come to the surface only after a rather long course in order then to dig themselves a bed.

The forms of the valleys change greatly and show all stages of their development /262/ from narrow gorges to flat valleys which are kilometers wide. Only glacial forms are lacking, for the Sikhote-Alin' was not glaciated. Since the basalt effusions are more recent than many of the old valleys, many of them were dammed up by the basalt streams and then again broken through. Because of the elevation and the retrogressive erosion, sloping valleys and graded river mouths /Stufenmündungen/ are frequent phenomena. The main valleys are disproportionately wide and in their erosion may not keep pace with the recent elevation. Therefore, the lower courses of the rivers as a rule also have sharp drops, often sharper than in the upper courses. Others are extensively heaped up and swampy. This is also a consequence of the very irregular passage of the water, which results from the monsoon climate. The main water veins cannot contain the quantities of water flowing together from hundreds of tributaries during the rainy period, and these main water veins then overflow the entire valley area with great pressure and can become a catastrophe for the

people there. All settlements on the lower courses of the rivers coming from the Sikhote-Alin' suffer in such floods. The harsh continental winter brings the appearance of frost such as is usual in Siberia. The water which is pressed out from rivers through the ice-covering, freezes again and again and makes formations of ice on top of ice, which can become kilometers long. If the water flows under pebble slopes, then the rock fragments are covered with concentric layers of ice, which are up to 10 centimeters thick. The boulders and pebbles then are entirely frozen in, but when the thawing weather comes, they fall into all the heavier movement (Arsenyev). 133

Despite the fact that the forms vary greatly in detail, the large, round, equalized lines of the mountain range nevertheless remain predominant in the overall impression.

The general forest covering contributes to this. Despite the careless cutting down of trees in the border regions, this forest covering with its wealth of wood, especially of valuable deciduous trees, represents a still unexploited treasure of the Sikhote-Alin'. But the forest is not of the same quality everywhere. The great dampness hinders growth especially on the coast, where the trees are often crippled and covered with knots. The underwood is then all the thicker, and the natural wilderness is all the more difficult to penetrate. In the interior the forests become swampy easily, and even on the watersheds marshes form. 137

The picture of the present-day coast owes its origin to the old forms of a heavily cut-up landscape submerged under the sea. Striking is the difference between the marked ria coast on the south and the more compensating coast on the east which has only a few bays. The causes of this morphological phenomenon have been investigated in great detail by Romer (168) and Nowak (134). They show first that 133

168. Romer, E. Bericht über geographischen Arbeiten im Gebiete des Sichota-Alin-Gebirges. /Report on the Geographical Works in the Area of the Sikhote-Alin' Range/ Anzeiger de Akademie der Wissenschaft Krakow, /Review of the Academy of Science in Krakow/ Series A. Krakow, 1913.

134. Nowak, J. Wissenchaftliche Ergebnisse der Expedition nach dem Sichota-Alin. /Scientific Results of the Expedition to the Sikhote-Alin'/ Krakow, 1913.

• 133 the explanation of the older Russian scientists, according to which the strips of the layers and tectonic disturbances alone are the causes, is not tenable. In addition to a varying resistance /263/ capacity on the part of the rock (Romer), the different angle of inclination of the submerged land above all is made responsible for this phenomenon. The line where the water is 200 meters deep runs at a distance of 15 to 25 kilometers from the east coast, but on the south coast, west of Cape Povorotnyy, this line lies at a distance of 125 kilometers from the coast. The average drop on the east coast is 8 to 13 percent and exceeds by more than fivefold the drop on the south coast which is 1.6 percent. With the same power of the surf, therefore, the former ria coast on the east is completely destroyed, leaving only the slight remains of today, while the southern coast has been able to preserve itself. The varying strip direction, therefore, has only a subsidiary role, the essential reason being the varying submergence of a heavily divided landscape. This submergence occurred before the effusion of the lava coverings. The elevated basalt lava in the vicinity of the coastal locality of Sovyetskaya Gavan' is covered with sea deposits. The elevation here is very young.

Recent post-Quarternary vertical movements play the principal role in the creation of the coastal forms in detail, especially in the creation of the valley forms through the displacement of the basis of erosion. These post-Quarternary vertical movements are characteristic of a great part of the east Asiatic coast. These movements are indicated by beach stones, terraces, surf channels, old shore embankments, and layers with recent mussels at the most varied heights. According to the research of Dunikowskij (57) and Romer, there are

> 57. Dunikowskij, E. H. "Stratigraphische Geologie des Sichota-Alin" /Stratigraphical Geology of the Sikhote-Alin'/, Wissenchaftliche Ergebnisse der Expedition nach dem Sichota-Alin /Scientific Results of the Expedition to the Sikhote-Alin'/. Krakow, 1913.

five phases of these movements: 1. elevation of over 200 meters above the present surface of the sea; 2. lowering by 500 meters; 3. elevation by 150 to 200 meters; 4. elevation by 100 to 150 meters; 5. very recent lowering. The last phase of the lowering, however, touched only the extreme southern coast. Even at present this lowering has still not been concluded. On the east coast, on the

other hand, an elevation still appears to hold sway at present. Many rivers emptying into the sea show delta formations. 133

As a consequence of the southern current running along the coast, numerous narrow tongues of land separating small bays from the sea have formed. All these tongues of land point toward the south. The deltas mostly lie left of the river courses, which, therefore, show a wandering to the right and which also dig under the shore on the right side. The sea current is weaker and irregular on the southern coast, which is heavily broken up; thus tongues of land here can run in all directions.

The most important bay on the east coast is Ol'ga Bay. It was discovered in 1787 by La Perouse and forms one of the best natural harbors on the coast. Lying off the bay are the small, rocky Chikhachev Islands. The bay itself has a diameter of 3 kilometers and is on the mean 25 meters deep. Once it was at least three times as large and reached much more deeply into the land toward the west. Today the valley areas of the rivers emptying into the bay become swampy. When there is a strong east wind, a backward flow can even be determined. The old marine abrasion terraces are very well preserved on the mountains at a height of 25, 30, and 120 meters. The low mountains surrounding the bay consist of granite, quartz porphyry, and sedimentary rock and contain above all iron /264/ in addition to lead [135] ore containing copper and silver. This iron is magnetite with an iron content of 50 percent; the iron is being mined here. The harbor locality of Ol'ga has several thousand inhabitants. In the hinterland of the bay [341] Russian peasant settlers have made their appearance.

The Tetyuke Bay has a greater economic importance. Here, 316 35 kilometers from the coast, is the most important zinc-lead-silver 504 ore in the Far East. A narrow-gauge railroad connects the mining installations and the preparatory installations with the harbor, which has gotten modern loading equipment very recently. The harbor locality has several thousand inhabitants. Here, too, there are agricultural settlements in the hinterland.

Between the two above-mentioned bays is a third bay, the 133 Vladimir Bay. It is surrounded on all sides by granite mountains which are up to 225 meters high. The bay has a depth of up to 12 meters. Fresh water lakes and swamps enable us to recognize the former larger expanse of the bay. Two projecting rocky peninsulas enclose the bay. Vladimir is known for its installations for the extraction of iodine from seaweed.

133 361 Of the more favorable bays on the northern part of the Sikhote-Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has developed quickly into a city with more than 20,000 inhabitants. It has also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

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361 For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

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133 361 The real, vast mountain massif of the Sikhote-Alin' is very sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Isiubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

137 Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

regions, the Sikhote-Alin' can still, as always, be designated as rich in forests. Planned exploitation of these forests has still not been begun at all. Of still greater significance for the future are the vastly rich resources of the ground. The southeastern part of the Sikhote-Alin' appears to be a true mine for the latter. However, a large part of these supplies has still not been once sufficiently investigated. The prospects for development along mining and industrial lines are always completely favorable, only an opening up in terms of transportation must pave the paths to the sources.

The extreme southern part of the Sikhote-Alin' is generally relatively thickly populated, and it is also better opened up from Vladivostok on. It already belongs more to the cultivated zone, and economically, too, it is so closely connected with the cultivated zone that it will be treated in connection with the Ussuri-Khanka depression.

The Ussuri-Khanka Depression

The western foot of the Sikhote-Alin' is, for its entire length, accompanied by an extensive depression, which stretches from the Gulf of Peter the Great to the mouth of the Amur, thus covering more than 1,300 kilometers. The Ussuri-Khanka depression forms the larger, southern part of this long depression and has a total length of 700 kilometers from the southern end to the mouth of the Ussuri. As compared with the Sikhote-Alin', this depression represents the sunken part of the land step and is accompanined on the west by the step, again elevated, of the east Manchurian mountain range. In the Tertiary period, the entire depression, as Ivanov (83) assumes, was flooded by the sea, and

83. Ivanov, D.V. The Sikhote-Alin' Ridge /in Russian/. Petersurg, 1896.

thus the Sikhote-Alin' projected from the sea as a long, narrow island. Proof of this view has been attained up to now only for the southern part of the depression.

The bulk of the depression belongs to the drainage area of the Ussuri. A flat watershed, which is scarcely perceptible in the countryside and which has an absolute height of only 190 meters above sea level, separates this section of the depression from that section of the depression whose waters drain off toward the south, i.e., the river

• 133 area of the Suyfun.

The Usssri comes from the southern part of the Sikhote-Alin' and arises from two source rivers: Daubikhe and Ulakhe. It flows first entirely in Russian territory, and, at the mouth of the Sungacha, which comes from Khanka Lake, it reaches the Manchurian border from where it then serves as the border river until it empties into the Amur. On the mean it is more than 420 meters wide in the lowland and flows languidly in a winding course with a mean velocity of only 1.5 kilometers per hour. The lower course of the Ussuri is often divided into several arms and becomes more than 1 kilometer /266/ wide. Numerous shallows hamper shipping, but the Ussuri is regularly traveled as far as Iman, where the steamer landing place is connected with the Ussuri Railroad by a railroad branch which is 1.5 kilometers long. Under favorable water conditions the Daubikhe is even traveled for a length of 100 kilometers as far as the locality of Lazarevo. However, the flow of water is generally very irregular, and also the summer high water changes greatly. Fluctuations in the water level occur, in which there is a difference of 10 meters between the extremes. Larger downpours of rain often cause the river to rise very rapidly, and thus unforeseen floods occur and cause much damage. The figures of Berg (27) show what great quantities of water can come

27. Berg, L. S. Landshaftno-geograficheskiie Sony SSSR /The Landscape-Geographical Zones of the USSR/, Part I. Moscow, 1931.

[132] down in such violent downpours of rain as are usual during the summer monsoon. While in Voroshilov, the former Nikol'sk-Ussuriskiy, the normal mean rainfall for September is 105 millimeters, a single, mighty downpour of rain in one day brought the rainfall for that September to 115 millimeters. On August 9-10, 1927 in the same place 122 millimeters of rain fell within 22 hours during a cloudburst, which was connected with a typhoon-like storm.

The Ussuri depression extends on both sides of the entire course of the river, and in the north the depression melts into the Amur plain. The Manchurian side appears in this respect to be disfavored in comparison with the Russian side. The Manchurian side lies lower, and its swampiness extends over a much greater area than that of the east side. But here, too, a zone, which is exposed to floods, which is very swampy, and which is little suited to agriculture extends along

the river. However, in contrast to the western side, the eastern side is narrow, and only somewhat wider at the mouths of the tributaries. On the other hand, the depression is also completely lacking in places, i.e., where the spurs of the Sikhote-Alin' go right down to the river. However, not only do these spurs interrupt the depressions, but they also often interrupt the hills and ridges which emerge from the flat alluvial plain and which are drier and as a rule have cultivated fields, villages, and forests. Therefore, there are only a few settlements along the river in the areas threatened by water. The real cultivated zone, which begins in the north already at Khabarovsk, always extends, for this reason, at some distance from the river bank along the country lying higher. The Ussuri Railroad also follows the higher land. Here the forest landscape and the forest steppe landscape have been cleared over an area 100 kilometers wide and have had to make way for the cultivated land, which extends in a considerable width especially in the regions around the lower courses of the Khor, Bikin, and Iman. The most important localities in these three depressions are Kondratyevka on the Khor, Bikin, and Iman, all three of which lie at the point where the above-mentioned rivers are crossed by the railroad. In the south the Ussuri depression flows together with the agriculturally important Khanka depression.

133 ● [361] [311] [361]

Khanka Lake lies 69 meters high and is 23,000 square kilometers in area, with its greatest length being 80 kilometers and its width being 40 to 85 kilometers. A narrow, sandy tongue of land in the north separates it from the so-called Little Khanka Lake. /267/ /Sketch Map//268/ South of this tongue of land the border crosses the lake, giving approximately a fourth of the lake to Manchuria. In the east the Sungacha forms the border. Khanka Lake is generally extremely flat, its greatest depth being 10 meters. It is surrounded by vast swamps and moors covered with reeds, and it is very much in the process of being filled up with sand. The western shores are formed from Tertiary loam and are, therefore, hilly and irregularly formed with numerous bays and peninsulas. Here to the west of the lake lie the regions, which, of all the areas near the lake, are most favorable for agriculture. The flat moors and swamps which otherwise surround the lake extend to the north for 10 kilometers, and toward the east and south they even extend 30 kilometers from the lake, thus indicating the one-time size and position of the lake. Where the swamps surrounding the lake are becoming somewhat drier, they are turning into meadows with high grass, thus giving a similar appearance to that of the Amur prairies of the Zeya and Bureya.

•133 by a peaked series of hills, which are 50 to 100 meters high. However, individual hills all appear on the floor of the valley, from which they rise with very steep walls. Adjoining this area to the east is a gently rolling and irregular Tertiary hill country, which acts as a transition to the spurs of the Sikhote-Alin'. South of Khanka Lake and also in [137] the Suyfun depression numerous small oak forests have been preserved which give the picture of the landscape a varied and attractive impression. As a consequence of the good drainage the best agricultural land in the area is to be found in the Suyfun depression. But also in the Tertiary hill country agriculture is making good progress. Here are the /270/ most thickly populated sections of the Maritime Krai, in which, however, the entire region near the coast of the Bay of Peter the Great must be included.

563 342 241 Great Russians above all are settling in the Ussuri depression. Their weathered, colorless log houses which are built of wood, are typical of the settlements in this area. Striking, however, in contrast to their homeland are the relatively flat roofs, which probably indicate the slight covering of snow which they have to bear here. Wheat, oats, and barley predominate in the appearance of their fields, but, in addition to corn, native plants, such as soy beans and perilla, are also appearing more and more. Ukrainians are the predominant settlers in the Khanka depression. As has already been indicated, this is based on historical reasons, since people from the Don above all were used in setting up the Ussuri Cossack formation of 1862. But it is still remarkable that it is Ukrainians who are in the majority in this almost treeless province. The bright color of their whitewashed mud houses dominates the settlements, and between the wheat fields corn comes strongly into the foreground. The Ukrainians here have also taken over for themselves the cultivation of sugar beets, just as they have in their homeland back in Europe. But, in addition, the yellow of the mud huts of the Chinese and Koreans also appears already in the individual settlements and in the village communities. These huts are often enclosed by the same mud walls; and in the flat, dammed-up fields there appears the light green of rice plantings, which are predominant in the damp area to the south of Khanka Lake. Further in the south toward the coast there is no longer a clear separation, but along the coast the Koreans increase. They often dress like Russians, but still they are more often dressed in the traditional white of the native clothing.

The breeding of livestock is pursued in the entire area: cows,

cultivated plants also flourish with great success. Very recently new sowing and cultivation machines have been employed by the Soviet in the entire Far Eastern region, which is damp in the summer. These machines take account of all the conditions of that area. In the expansion of the cultivated areas devoted to soy beans, rice, beans, millet, etc., it has been shown that there has been more conversion to these in more recent times, following natural conditions. The noxious fungus, which prefers to attack the European types of grain, such as wheat, barley, and oats, has already been pointed out. This grain disease occurs in those damp warm regions in especially rainy years. As Arved Schultz (181) has observed, it is very characteristic

181. Schultz, A. Das Ussuri-Land /The Ussuri Country/. Königsberg, Prussia, 1932.

that the fields of the Korean and Chinese peasants are attacked less than the fields of the Russians. There must, therefore, also be some reasons for this. In addition the fight against the Fusorien, of which a total of 22 types have been determined to date, has been taken up by the Soviet.

In contrast to the little populated eastern and southern sides of Khanka Lake, the Tertiary hilly country to the west of the lake is thickly populated and is among the best agricultural regions. A railroad line, which is 127 kilometers long, leads from the Ussuri Railroad into this region and ends right on the border in Turiy Rog at the northeastern end of the lake. On the eastern side of Khanka Lake, the cultivated zone, which continues from the north without interruption, follows the Ussuri Railroad in a broad line, and with broad spurs into the valley of the Daubikhe and Ulakhe, the cultivated zone also penetrates toward the east into the mountain range. South of the lake the cultivated zone takes up the entire area from the Manchurian border to the mountain spurs of the Sikhote-Alin' and extends in an area of almost equal width via the Suyfun depression toward the south to the coast, where on the west side of the Bay of Peter the Great it extends farthest to the south in the coastal plain.

The watershed between the Ussuri and the Suyfun is flat and scarcely makes an appearance morphologically. The Suyfun itself comes from Manchuria and crosses the border almost exactly at 44° latitude. Then it turns immediately toward the south to the sea. The valley area of the river is level and is accompanied on both sides

361 low ridges of the Sikhote-Alin' and enters the Muravyev-Amurskiy Peninsula and finally reaches Vladivostok, the main town and the most important harbor of the Soviet Union on the Pacific.

Vladivostok was founded in 1860. In 1872 the base of the Russian Pacific naval fleet was transferred here from Nikolayevsk on the Amur, and since then Vladivostok has been the center of the military power of the land on the Pacific. Economically, however, the city developed only slowly. In 1882 only 5,000 persons lived in the city. At the same time somewhat regular shipping between Vladivostok and the Black Sea harbors of Russia was taken up. However, the city's rise to become the economic center of the land began only after the construction of the Ussuri and Manchurian Railroad. [504] Through this railroad Vladivostok first became an important Pacific harbor, especially in transit shipping, and in this it is a harbor for all of northern Manchuria. The more recent development of the city into an industrial city has also kept pace with its development into an important harbor. [161] In 1897 the city had a population of 21,000 persons; in 1914 it was 59,000; in 1926 it was 107,980; and in 1939 it was 206,400. At present it is more than 300,000.

361 933 504 The city lies on the well protected and deep bay of the "Golden Horn" at the southern end of the Muravyev Peninsula opposite the large Russkiy Island, which is richly divided up. The peninsula and the island are separated by the "Eastern Bosporus," which extends from the Amur Bay in the west to the Ussuri Bay toward the east. The harbor is unique and one of the best natural harbors in the world, as the designations already indicate. The "Golden Horn" penetrates from the south into the Murayev Peninsula and bends then almost at a right angle toward the east (see map). /273/ /Sketch Map of Vladivostok and the Southern Coast/ 1/ 274/ The north-south section forms the outer bay and is 3 kilometers long; the west-east section constitutes the inner, harbor bay and is 3.2 kilometers long. The width of the "Golden Horn" is 800 to 1,000 meters; the depth in the interior is 10 meters, and at the entrance of the bay it is 28 meters. Mountains surround the bay and protect it from the cold northwest and west winds. Mountains also rise 50 to 100 meters on the Shkota Peninsula, which separates the outer bay from the Amur Bay. Nevertheless, 361 504 the harbor freezes for three to four months every year, and throughout the winter three ice breakers are in uninterrupted service to keep the harbor and the entrance free of ice. The outer bay and the western part of the inner bay above all belong to the commercial harbor, while

1/ [Cf. cat. 116, p. 317 -- Analyst]

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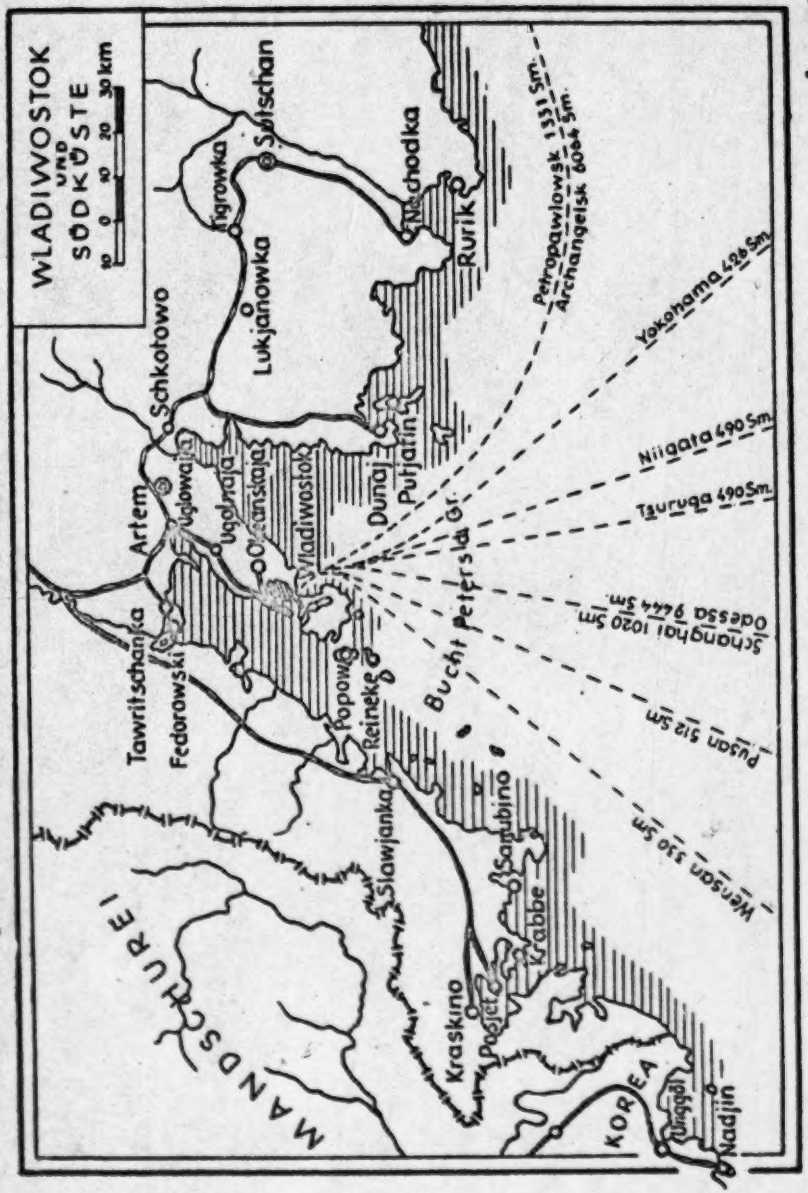

Sketch Map of Vladivostok and the Southern Coast

137 appear extensive moss steppes, which have a similar character to that of the tundra, and these regions have an almost polar appearance. The south, on the other hand, has milder traits in places. Since rich
135 coal and oil supplies have been discovered in very recent times and since their exploitation has begun, the island is sliding more and more into the foreground of economic interest; the population is increasing rapidly and is adapting itself to the island. With this the bad reputation of the island is also beginning to change.

● 133 According to the relief, Sakhalin is divided into two parts: a larger, mountainous section in the south, and a smaller section in the north which is gently rolling to hilly. The mountainous south consists of two mountain chains, which run in the direction of the island and which are separated from one another by a depression stamped as a longitudinal valley. The depression is drained toward the north by the Tym' and toward the south by the Poronay.

/278/ The eastern mountain range, whose highest elevations are Nevel'skiy Mountain (2,013 meters) and Lopatin Mountain (1,680 meters), is more heavily divided up than the western mountain range, which also is lower generally and whose highest point, the Aimi Yama, reaches only 1,641 meters. In its external impression, the eastern mountain range should be designated as more of a ridge mountain range. It consists principally of metamorphic rock, slate, sandstone, and limestone which is similar to marble. These are the same stones as those which build up the border chains of the mainland. These sedimentary stones are in many places permeated by syenite, diabase, andesite, and basalt. Granite, however, is lacking. In terms of age, most of the sediment of the eastern mountain range is reckoned as Paleozoic. Mesozoic is diffused only in places and then is only slightly developed. It is different in the western mountain range. This is built predominantly from Tertiary layers, beside the older rock. Jurassic and Cretaceous also lay claim to a significant proportion. Cretaceous appears especially in the southwestern part and is diffused in the former Japanese territory. Weathering effects are very great because of the damp climate; they affect especially the parts of the mountain range without forests. The sharper forms and the greater variety in the relief can be traced back for the most part to the varying powers of resistance of the different types of rock. The loamy and gravelly slate weather especially quickly.

The Tertiary deposits, which have a wide diffusion in all of Sakhalin, and the Cretaceous sediments are heavily destroyed. The

mountain-forming occurrences, which determine the relief of today, began after the deposit of the most recent, Pliocene Tertiary layers and ended still before the Quarternary sea transgression, whose sediments are here deposited almost horizontally. But the present-day mountain ranges of Sakhalin cannot be traced back to Tertiary dislocations alone, for earlier, in a period of the earth's history which has still not been determined exactly, the older layers were already folded up into a mountain range, running in the same direction as today's mountain ranges. Thus in the Tertiary period only a new forming occurred. The post-Pliocene transgression separated Sakhalin from the mainland and flooded all the low-lying sections of the island. It even penetrated between the two mountain ridges, so that these mountains projected from the sea as large, high islands. (207). Later,

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, (Odessa, 1923), Vol. II, p. 265.

in elevations following one another at several intervals and perhaps interrupted also still by lighter depressions, the island then emerged from the sea in its present form. Even today these movements have still not been concluded, as is indicated by the earthquakes which have been recorded up to the present. Traces of glaciation are nowhere to be found.

The longitudinal valley between the two lines of mountain ranges is to be regarded as a graben depression. It is 5 to 30 kilometers wide, and in its entire length it is covered by post-Pliocene sea deposits. The watershed, which separates the Tym' which flows toward the north from the Poronay in the south, lies only 150 meters high. /279/ The floor of the valley is mostly level and is covered with a fertile loamy soil. Protected by the two lines of mountain ranges, the valley has a more continental climate, with the warm summers corresponding to its southern location. Accordingly many Russians have settled here in a series of villages.

Toward the north both lines of mountain ranges move back from the coast, quickly become lower, and go over into a hill country, which fills the interior of the northern part of the island with gently rolling ridges which never project 500 meters. Thereby the two ridges and also the longitudinal valley still distinguish themselves in the relief far toward the north. The coast itself is followed by a broad plain,

[133] [137] which consists of recent and post-Pliocene deposits and which for the most part is covered by a tundra vegetation interlarded with bushes. The extent of this plain varies, being largest in the north around Sakhalin Bay. The plain ends in a 2 to 6 meter step which is delineated rather sharply everywhere. With this step the hill country then begins. This hill country as a rule bears a thick taiga consisting of spruces and larches. The watershed regions are scarcely perceptible in the relief, but they show up in thicker and higher forest growth. In places the hill country step also goes to the coast itself and then forms a higher, steep slope, which can reach 15 to 26 meters. (207) Taiga and sea

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, (Odessa, 1923), Vol. II, p. 266.

then come very close to one another.

Schmidt Peninsula, so named in honor of the well-known Sakhalin explorer, forms the extreme northern end of Sakhalin. This peninsula forms in miniature a true model of the geological and tectonic structure of the southern section of the island, with even the intrusive phenomena being the same. Here, too, we find an eastern mountain range and a western mountain range with a depression lying between. In the "Tri Brata," the "Three Brothers," the eastern mountain range reaches a height of 708 meters. For the most part this range declines steeply to the sea, and in the north it forms the rocky Cape Elizabeth, the most northerly point on Sakhalin. The western line of mountains, which likewise declines steeply to the sea, attains a height of only 406 meters. The depression lying in between ends in the north with a lake, which is separated from the sea by a narrow tongue of land. On the land narrows which connects Schmidt [315] Peninsula with the main part of the island lies the oil fields of Sakhalin which today have the richest yield.

Sakhalin's coast is generally but little divided up. In contrast to the more contiguous western coast, the northern coast and the east coast represent typical coasts with alluvial lands and numerous fresh-water lakes. Baykal Bay in the northern part of the island represents [505] the largest fresh-water lake. It can be traveled by coastal ships with a draught of up to 3.5 meters. Here on the eastern side of the bay lies Moskal'vo oil harbor, which has a railroad connection to the oil region in the eastern part of the peninsula. Still more strongly marked

is the alluvial land character of the eastern coast, on which there is one fresh-water lake after another, almost lined up in a row. All these lagoons are extremely narrow, but they are up to 160 kilometers long. In contrast to the restless sea, these lagoons permit /280/ a protected water traffic along the coast. Sandy places with dune formations, however, are only rarely to be found here. Mostly vast, tundra-like moss steppes, which consist of peat layers up to 15 meters thick, spread out here on the lower courses of the rivers, and are especially extensive on the Tym'. Here, as on the western side of the island, these steppes are excellent meadow lands for reindeer herds.

The difference in the coastal formation between the western and the eastern parts of the island can be traced above all to the prevailing current. On the eastern side the current goes along the coast toward the south. On the western side a current toward the south prevails within the Tatar Sound on the coast of the continent, while on the coast of Sakhalin an opposing northern current predominates. This northern current, however, as Zhdanko (188) has indicated, does not

188. Zhdanko, M. "Isvlechenie iz doklada v zasedanii I.P.G.O." Excerpts from the Material at the Meeting of the Geographical Society in 1915/, Izvestiia of the Imperial Russian Geographical Society, 1915.

run regularly; rather the current changes in connection with the tides; thus there are only tendencies toward an irregular level coast.

Climatically the low northern part of Sakhalin is the most disfavored, since no limitations are set to the raw influences of the Sea of Okhotsk. Therefore, the appearance of the Daur larch is just as typical here as the appearance of the Ayan spruce. Toward the south in increasing measure the taiga also has deciduous trees of the same type mixed in as are characteristic of the Sikhote-Alin'. A consequence of the damp climate is not only the moss areas near the coast but also the meadows which appear in the more protected flood plains of the rivers. These meadows have a very heavy growth of grass, which in places is 3 to 4 meters high. Senecio cannabifolia and Petastes japonicus should be mentioned as among the principal types represented here. In the mountains themselves the stone birch, Betula ermani, appears as the characteristic tree in the heights as do the spruces and pines. In more protected valleys stocks of pure deciduous trees are no rarity. Worthy of note is the appearance of wild Kuril

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

The Region of the Amgun and the Uda

This area comprises the entire, heavily divided up coastal strip on the southwestern corner of the Sea of Okhotsk from the river area of the Amgun in the southeast to the river area of the Uda in the northwest. In contrast to the better known coast, the interior of the land, especially between the Bureya Mountain Range and the coast, is still very little explored. The raw Okhotsk climate with its heavy rainfall, the heavy swampiness of the valley areas, the thick taiga of the mountains, which is difficult to penetrate and which is interlarded with high moors, and the lack of habitation of the regions offer few inducements to explore these regions.

The general character of the landscape appears to be greatly varied. Low, forested mountain ridges give way to higher lines of mountain ranges, and in between lie deeply sunken flat valleys, which often spread out into vast plains. The lines of mountain ranges stretch predominantly toward the northeast and represent in places heavily destroyed continuations of the Bureya Mountain Range and also spurs of the Dzhagdy Mountain Range. Some mountain ridges press into the sea as peninsulas, while the bays in between appear to represent broken-in grabens. Numerous small and large islands, which lie off the coast and which are summarized under the name of Shantar Islands, increase the impression of a mountain landscape sunken in the sea. Three large bays press far into the land from north to south: the narrow Nikolya Bay in the east, which is 50 kilometers long and up to 20 kilometers wide, the wide Ul'ban Bay in the middle, and the Tugur Bay in the west, into which the river of the same name empties. In contrast to these three richly divided bays of the sea, the large Uda Bay projecting toward the west appears monotonous.

The coast is for the most part rocky in its entire course from the mouth of the Amur to the mouth of the Uda. It is especially rocky in those places where the lines of mountain ranges and mountains stretching there break off steeply at the coast. These mountains consist mostly of loamy and gravelly slate and sandstone, /248/ which are laid in more or less steep faults stretching toward the northeast. Less commonly granite and porphyry appear between the sedimentary rock. Where this is the case, these mountains can be recognized from a distance in relief with their massive, peaked forms. The beach plains and the floor of the sea are saturated with remains of mussels, especially of Balanus, Cardium californiense, Natica aperta, Trochus schantaricus,

•133 etc. (127) The sea narrows between the Great Shantar Island and

127. Meglitskii, G. "The Shore of the Sea of Okhotsk and the Tungus Region" /in Russian/, Gornyi Zhurnal, No. 8, 1893.

the mainland is very shallow and nowhere exceeds a depth of 23.8 meters. Between the individual islands the sea is still shallower, and Yakshina Bay, which penetrates to the south of Great Shantar Island, is not navigable at all for ships at the time of ebb-tide. The line at which the sea becomes 50 meters deep leads from the northern tip of Sakhalin Peninsula directly toward the west and encloses the entire island world; thus here this line runs 100 to 125 kilometers from the coast of the mainland; while on the Okhotsk coast, stretching to the northeast, north of the Uda Gulf the sea is 200 meters and more deep already at a distance of 5 to 10 kilometers from the coast. Between the islands and especially also in the bays, the tides make themselves strongly felt, the local fluctuations in the level of the water reach 4 to 7 meters. The raw influence of the Sea of Okhotsk, which affects the entire province, is caused among other things by the sea current stretching from the northeast along the coast. This current brings large ice masses from the north in the spring and piles them up between the islands and on the mainland coast. On the coast stretching toward the southeast between Nikolya Bay and the mouth of the Amur, a leveling coastline has formed as a consequence of the equal current, and thus lagoons and narrow tongues of land appear here. Also the collecting of sand in the "Amur-Liman" in the north between the mainland and the northern end of Sakhalin Island is a disadvantage which the sea current brings. Great Shantar Island consists of the same geological material as the mainland mountain range which stretches toward the northeast; thus Great Shantar and the entire island group can be regarded as parts of the mainland torn away by the sea. Great Shantar Island consists of a maze of forest-covered summits and mountains, which are up to 1,000 meters high. In between, vast moss moors, swamps, and lakes cover the surface. The other large and small islands are also in part covered withforests and make a picturesque scene with their rocky formation. All the islands are uninhabited.

The Amgun has a total length of more than 800 kilometers, of which around 400 kilometers are designated as navigable. The

river comes from the eastern slope of the central Bureya Mountain Range and flows next between this mountain range and the Badzhal'skiy Mountain Range toward the northeast. Then the Amgun enters a low plain, which here, on the middle course of the Amgun, spreads out to a great width of up to 100 kilometers. In this plain very important rivers flow into the Amgun from all sides. Among these is the Kerbi, which also comes from the west. The area rich in gold around the upper course of the Kerbi was already mentioned earlier. The low plain, from which individual hills and mountains project directly, is filled with moors, /285/ swamps, and lakes. Best known of these lakes is the large Chukchagirskoye Lake, which has a large number of islands. A broad and likewise damp valley area remains with the Amgun on its further course. In the north and south this valley area is followed by a highland, which is covered with forests, which has gentle slopes, and which is up to 500 meters high. The heights of this highland also occasionally come right to the river and then often form steep drops. Notorious is the area around the lower course of the Amgun, which spreads out widely and flows together with the Amur lowland. The drop here is so slight that the Amgun dissolves into a vast number of arms, still waters, and long extended lakes and must wind through the terraine in large and small bends.

The vast, flat swamp and moor plains produce an entirely different picture here from the meadow steppes of the Amur plains. The Amgun plains are, of course, also generally flat, but they are in many cases given a somewhat uneven form by clusters of grass and moss hills, between which blank water often shows through. But the long, irregular strips of forests and bushes constitute the greatest difference. These strips twist through the wide plains and follow the river courses on both sides like gallery forests, causing the river courses to be visible from a distance. On the Amgun the forests consist predominantly of deciduous trees. It is typical of this entire cool and very damp region from the Amgun to the Uda that the forest settles only on the better-drained spots where the surface water and the ground water is in motion, i.e., on the rivers and the slopes. The flat ridges or plateaus are again more unfavorable. On them high moor formations appear often as enemies of the forests; thus the trees become "water-seeking" and gradually decay. The traveler, therefore, must always keep away from the valley bottoms and use the ridges and heights, even though these project only a little. However, often here, too, he encounters a jumble of pathless flat and high moors in the flat watershed regions, and thus he can still go forward best along the slopes.

watershed regions, and thus he can still go forward best along the slopes.

The Amgun region is as good as uninhabited. Only on the largest rivers is human life to be encountered here and there: wooden huts of some Gilyak or also of Tungus Olcha and Negidal, who live from fishing and hunting. On the Amgun itself, however, there are already Russian settlers, who have come together into some small localities. The most important is Kerbi which lies at the mouth of the river of the same name. The Amgun can be traveled by small steamers as far as Kerbi. The Amgun brings goods to supply the area here, and the goods are then towed in boats down the Kerbi to the gold regions.

The valley of the Tugur becomes up to 20 kilometers wide and gives the same picture. Here, too, moss moors extend far down the valley. The swampiness is strengthened here still more by the appearance of permafrost.

/286/ The river area of the Uda is very extensive. In the Uda collect waters which come from the Dzhagdy Mountain Range and also from the Dzhugdzhur Ridge. The Uda's left tributary, the Maya, which is more than 300 kilometers long, separates the Stanovoy from the Dzhugdzhur. Here, too, the great swampiness causes the traveler great difficulties. The Uda is a mountain river and flows seethingly in a bed filled with boulders and interrupted with numerous rocky islands. Only in its lower course does the Uda become quiet. Here lies Udskoye, a small Russian village, which is the center of the hunting of fur-bearing animals. This hunting still brings very rich yields in these remote mountain regions.

The Okhotsk Coastal Area

The area includes the entire western and northern coastal region of the Sea of Okhotsk, beginning at the Uda in the south and ending at Penzhina Bay in the north. With the coast being more than 2,000 kilometers long, the conditions, of course, vary in detail, but in general the prevailing character of a raw mountain forest landscape with a damp and cool climate is preserved, which is less tolerable for man than the harsh contrasts of the continental interior.

The region can be divided into two parts according to the structure of the coast and according to its forms: a southwestern part between the Uda and Okhotsk with coast which is little divided up and a northeastern part which is heavily broken up by numerous large and

small bays, peninsulas, and islands. The character of the southwestern part is determined only by a line of mountains stretching parallel to the coast, the Dzhugdzhur; in the northeastern part ridges of mountain ranges are predominant which stretch irregularly toward the line of the coast. 133

In the western part, the Dzhugdzhur coast, the mountain ridges go right down to the sea and leave free for settlement by man a narrow coastal strip, which at most widens somewhat at the mouths of the rivers. The Primorskiy Ridge, which lies in front of the Dzhugzhur chain in the south between the Uda and the Ayan, even declines directly and steeply into the sea. The Dzhugdzhur, which stretches parallel to the coast and consists of several ridges, forms a contiguous mountain wall with its masses formed predominantly of granite, gneiss, and porphyry. This mountain wall shuts off the coast from the interior. The mean height exceeds 1,000 meters, and the few unprotected passes also lie almost as high. The watershed runs in the vicinity of the coast, and thus along the entire coast only short rivers, which, however, seethe because of the steep slope, flow down into the sea. Therefore, the deeply etched valleys opening on the sea stand in sharp contrast to the more horizontal lines of the round peaked surface of the massif of the mountain range. The valleys are filled with thick /287/ taiga, teeming with underwood, and, with the narrow bottom of the valley saturated with boulders and scree, these valleys offer man only a very difficult opportunity to penetrate into the mountain range; and yet these sharply etched and steeply rising valleys are the sole routes which lead from the coast into the interior of the land. Thus the fact that the coastal strip is cut off from the hinterland is a special mark of this region. The ridge is more thickly forested only on the slopes, while the heights themselves have only a spotty, crippled growth of trees or lie completely bare in the highest places. The passes, too, mostly lie above the tree line and are scarcely usable in winter as a consequence of violent snowstorms.

The interior of the mountain ridge is as good as uninhabited. Apart from hunters, only a few Tungus with small reindeer herds cross the desolate mountain areas. On the coast there are a series of Russian fishing settlements. The principal locality here is Ayan. It lies on a favorable natural bay, which is approximately 1 kilometer both long and wide and 6 to 38 meters deep. Since the entire Dzhugdzhur coast is blocked by ice in the winter, the harbor can be used only in summer, although constant violent sea winds often hamper the departure of sea 361 505

361 ships and indeed in many instances make departure impossible. From
505 Ayan a route starts toward Yakutsk. This route rises steeply over the mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

361 In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an
563 important fish collection point. On the coast and also in the hinterland
241 of the depression, numerous Russians have settled. In addition to an
231 agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

•133 Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

Tertiary fault mountain range zone of East Siberia. On the one side, 133
this mountain chain is supposed to have been connected with Sakhalin, and on the other it is supposed to appear again in the Taygonos Peninsula, in the western part of the Penzhina depression, and in the northern part of the Anadyr' region. In the coastal region this chain appears characteristically in the Chutnavar Mountains, which stretch in a wide peninsula from west to east and which are separated from the mainland mountain ranges by an extensive valley which runs in the same direction. Through this valley flows the Kaza Tau'. The mainland mountain ranges referred to above are spurs of the Cherskiy Mountain Range, and with their ridges and the valley areas lying in between, they run into the Kaza-Tau' valley almost perpendicularly; thus in a narrow area the opposing construction appears clearly. For the rest the Tertiary mountain chain appears only in island remains, on the Koni and Pyagina peninsulas and then on Taygonos Peninsula.

East of the Yama begins the Kolyma Mountain Range, which from here on stretches toward the northeast parallel to the coast and then in the hinterland of the Taygonos Peninsula turns toward the north-northeast into the interior of the land. But, in contrast with the Dzhugzhur, the watershed lies far from the coast. The mountain range slopes toward the coast and is broken up into individual parts by numerous long and relatively wide erosion valleys, which run almost perpendicular to the coast. Thus the general impression remains the same as in the west between Okhotsk and the Yama, where the spurs of the Cherskiy Mountain Range meet the coast at the same right angle. However, in the coastal region of the Kolyma Mountain Range the valley areas and also the coastal plain are smaller in size. In the background of the Gizhiga Bay, between the Kolyma Mountain Range and the Taygonos Ridge lies an extensive depression, which is filled with Tertiary deposits. In this depression coal-bearing layers have also been discovered in very [135]
recent times; these layers contain industrially valuable deposits of brown coal and lignite. Natural outcroppings of the productive seams are even to be observed on the coast of Gizhiga Bay.

The northern location comes out more and more in the landscape 137
picture of the coastal region east of Okhotsk. The protected valley areas are as a rule covered with good meadows, which offer /289/ usable pastures for cattle and horses and which are also rich in hay fields. The courses of the waterways are followed by meadow bushes and rows of poplars. Birches set in toward the upper courses. The slopes are mostly covered with larch forests, which become light and low in the heights.

same time created the shortest connection with the entire Kolyma region. The highway is more than 1,000 kilometers long and was built under the most difficult of conditions (mountain ranges, permafrost). Bases connected with small agricultural economies /290/ facilitates the use of the road. The harbor of Magadan lies on Nagayevo Bay. Steep rocks are artificially heaped up at the foot of the landing places for sea-going ships. Ice breakers are employed in the harbor to make it possible to use the harbor for a longer period. The rapidly growing city, which in 1939 already had more than 10,000 inhabitants and today is estimated to have 50,000 inhabitants, lies somewhat at a distance from the harbor and is separated from it by a flat, rocky hill. The construction of the city was done with the most modern means. They have even succeeded in building stable six-story skyscrapers, despite the permafrost, by using deep excavations and by laying in insulating layers.

The Provinces of the Extreme Northeast

These regions are bordered on the west by the Kolyma Mountain Range, and they are divided into the Chukchi Peninsula, the Anadyr' and Penzhina region, and the Koryak Mountain Range. Of these areas only the strip along the coast is better known; the vast interior, on the other hand, is mostly still insufficiently explored.

The Chukchi Peninsula is cut off from the Asiatic contintent on the one side by Chaun Bay on the Arctic Ocean and on the other side by Anadyr' Bay on the Bering Sea. The southern border is formed by the Anadyr' Mountain Range, which represents the watershed between the Arctic Ocean rivers and the Anadyr', and which is more than 1,000 meters high. The region north of the Anadyr' Mountain Range is also filled with lines of mountain ranges almost as far as the coast of the Arctic Ocean. These mountain ranges stretch in a direction from west to east. Further toward the east the contiguous, broad mountain landscape is lost, and the mountain ranges form themselves into two ridges which lie under 800 meters and which, broken through several times by rivers, reach the east coast with the northern mountain range going in the direction of Cape Dezhnev. The cape itself, which lies 77 kilometers from the mainland of Alaska, consists of a single, massive mountain which is 770 meters high and which is formed from limestone. This mountain is completely isolated and is connected with the mainland only by a low, narrow tongue of land, which is

133 covered with tundra. Thus from the sea the cape looks like a mighty island, which in its layout vividly recalls the rocks of Gibraltar. The northern and also the southern mountain chain consist predominantly of gneiss and granite. In the Anadyr' Mountain Range Mesozoic rocks are already drawn into the faulting, and south of this range Tertiary layers are also drawn in; thus from north to south one encounters more recent mountain formations.

As a consequence of the easier accessibility the coast of the Chukchi Peninsula is very well explored. Shelagskiy Cape on the eastern side of Chaun Bay is approximately 950 meters high. Further to the east the mountains, which are 600 to 800 meters high, fall back and make free a broad coastal plain with lakes and beach formations full of lagoons. These beach formations, however, are here and there interrupted by round humpy mountains, in which the basic stone /291/ projects from alluvial land plains. At Kolyuchin Bay the mountains again go right down to the sea. Cape Serdtse-Kamen' has heights of
[654] from 600 to 900 meters. Eight polar stations have been erected on the coast of the Arctic Ocean on the Chukchi Peninsula to observe the climatic and especially the ice conditions for the benefit of shipping. These stations are distributed over the Chukchi Peninsula at almost equal intervals. All are equipped with radio stations and are supplied for the most part by airplane. The eastern and southern coast of the peninsula, where the mountain ridges often go down to the sea, is richly divided by various bays. From Anadyr' Bay, KerstaBay penetrates farthest into the land. On a side arm of Kresta Bay lies the highest elevation on the Chukchi Peninsula, the Matachingay. With its 2,800 meters it dominates the mountains surrounding it which are 600 to 800 meters high. At its foot andesite appears, and thus one can probably correctly assume the mountain to be a volcano formation.

137 The bulk of the Chukchi Peninsula is covered with tundra, which makes for a very varied picture according to the relief. Swampy depression tundra, interrupted on the courses of the rivers by pasture and birch underwood, appears only in the valleys and plains. Of greater value is the dry mountain tundra, which is covered with good reindeer moss. The mountain tundra traverses the flat ridges of the mountains and insure the existence of the great reindeer herds of the Chukchi. The higher mountain ranges and mountain peaks are completely without vegetation and are richly sprinkled with rock ruins. Growth of trees occurs very rarely. It is limited to individual, protected spots. Only in the valleys opening toward the south into the Anadyr' region do

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated. 361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

•133 appearance of a large mountain river. The high banks already here have good larch forests. In the area around the upper course of its left tributary, the Belaya, which comes from the Anadyr' Mountain Range in the north, there are supposed to be, on the other hand, only poplar forests and no larches. Above Markovo, the principal locality in the interior of the region, the wide plain begins. At Markovo, more than 500 kilometers from its mouth, the river lies only 25 meters above sea level, and thus the drop from here on is very slight. The middle course of the river, therefore, extends over a width of up to 1.5 kilometers and includes numerous islands. The depression, especially the central parts on both sides of the river, traverse wide, lightly hilly, moss-covered swamp areas with numerous large and small lakes and river courses with water which scarcely flows. There are
[131] no forests at all in the depression. West of the Belaya and to the southwest of the basin, the swamp areas here and there still have bushes of alders, poplars, and willows, but toward the east this, too, disappears, and here the landscape picture appears monotonous and can be surveyed over a vast area. Also the spurs of the mountain range and the ridges are mostly flat and covered with a slimy moss covering. Often the mountains still have lakes and brightly iridescent swamp areas on their ridges.

131 To the north of the Anadyr' depression, as was already mentioned with the Belaya, only poplar forests occur in protected places. Larches are generally rare there. Only south of the depression do they also /293/ appear. In the west, on the other hand, i.e., more removed from the damp-cool influence of the sea, larch forests penetrate into the valley areas and onto the slopes much farther to the north. The transition from the depression to the mountains occurs in the same way almost everywhere. As a rule, poplars and willows, but rarely birches, set in first on the river courses, and, widening into a type of gallery forest, these trees accompany the river even into the mountain range. For this the trees take up the valley bottom, while the slopes are already traversed by coniferous forests. The slopes exposed to the winds and the higher ridges, however, are without forests.

132 The fact that the Anadyr' depression opens onto the sea permits the influence of the sea to penetrate far into the land. In the west temperatures of -50° are no rarity, while that degree of coldness appears only as an exception in the east. In summer, on the other hand, the coast is cool and rainy, while in the west there are very warm days. The cool fog which envelopes the coast in summer almost never penetrates into the land, however.

almost never penetrates into the land, however. 000

The area occupied by settlements is very slight in the east and in the center of the depression. In the west, on the other hand, there are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives. 361 563

There are only a few settlements on the coast because of its flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region and is regularly visited by coastal steamers. A short while ago rather large Eocene brown coal fields were found in the vicinity of the locality. The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/ and supplies the coastal steamers. In addition, Anadyr' is the central station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory. 361 [505] [135] [255]

Toward the southwest the Anadyr' depression goes over into the Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which 133

133 flows into the Sea of Okhotsk. In comparison with the Anadyr' region
[137] the climate here in the Penzhina lowland is somewhat milder. The inclination of the ground is greater, and thus the moss steppes widely diffused here are not so very swampy: the larger rivers are accompanied by poplar forests almost everywhere. Toward the mountains there is the same alternation in the vegetation picture as there. At the mouth
361 of the Penzhina lies Kamenskoye, where the coastal steamers land.
563 The capital, Penzhina, itself is a small village lying in the middle of a lonely moss steppe in the interior of the region. Koryak constitute the majority of the small population. They are in part sedentary, living as fishermen in the villages, or they wander as nomads with their reindeer herds on the good grazing grounds of the moss steppes
135 In the Tertiary layers, which fill the Penzhina basin, coal-bearing series have recently been found, which also contain lighter lignite in addition to brown coal of good quality. The deposits are said to stretch almost over the entire Penzhina basin.

133 On the east the Penzhina lowland is bordered by a flat mountain ridge, the Penzhina Mountain Range. The very long moss steppe, the Parapolskiy-Dol, whose character is like that of the Penzhina lowland, stretches on the other side of the Penzhina Mountain Range from southwest to northeast. In the south this moss steppe widens and traverses the entire land narrows which connects Kamchatka with the mainland. Here in the middle of the land narrows the moss steppe reaches a height of 155 meters.

The region between the mouth of the Anadyr' in the north and the land narrows in the south is taken up by a still little known central mountain range, which is usually designated the Koryak Mountain Range, after its principal population. This mountain range fills the entire area as far as the east coast, and its waters in the main empty into the Bering Sea. Traversing the land which is mostly formed like a high plateau are three lines of mountain ranges: the Pal-Mal, the Tingeney, and the Rarytkin Ridge. Like the entire Koryak Mountain Range generally, these three belong to the outer zone of the Tertiary faulting belt and are regarded as a continuation of the Kamchatka Mountain Range. In contrast to the interior which is like a high plateau with a general height of 500 meters, the rivers flowing toward the coast are deeply dug in, and thus from the sea an impression more like a mountain range arises. The bulk of the surface is covered with tundra, only the more protected places and valleys have forests. Reindeer-breeding Koryak inhabit the interior and also constitute the population of the [295] fishing settlements on the coast.

population of the /295/ fishing settlements on the coast. The center of the fishing and the processing of fish is Ust'-Apuka, west of Cape Olyutorskiy. 361 583

Tertiary brown coal deposits have also been found in the Koryak Mountain Range in Korff Bay in the south and in the Ugol'naya Bay in the extreme northeast. In Korff Bay the deposits have already been mined for years, and the coal from here is used to supply coastal shipping. The coal here is of Miocene age and is contained, as far as the supplies have been investigated to date, in 11 seams with a total thickness of 20 meters. In this the quality of the upper seams is very different from that of the lower seams. The uppermost seam represents typical lignite: the lower seams, on the other hand, are like a gleaming, bituminous coal. Mining is supposed to have been taken up in Ugol'naya Bay also, and a coal base is likewise supposed to have been erected. 135

Kamchatka Peninsula

Like a spearhead Kamchatka Peninsula projects toward the south, separating the Bering Sea from the Sea of Okhotsk. The peninsula covers 270,000 square kilometers and has a length of 1,200 kilometers, which corresponds approximately to the distance from Berlin to Rome. 133

South of the Parapolskiy Dol plateau which stretches across the land narrows, the first lines of heights begin, and these then develop into two mountain chains as the peninsula widens. Between these two chains, the western and the eastern, is imbedded the valley of the Kamchatka River.

The low medium mountain range of the west increases considerably in height south of the Palana River. In the area of the Tigil' River the main chain is richly divided up, is accompanied by parallel chains, and reaches already a height of 1,650 meters. In the area around the source of the Bystraya and the Icha rises the truncated volcano cone of the Ichinskaya Sopka, which projects over its approximately 1,200 meter high ground area to the gigantic height of 3,607 meters. The mighty dome of the mountains is covered with glaciers, from which some hanging glaciers flow down. The water from the melting of these hanging glaciers has torn deep furrows. The Ichinskaya Sopka is the sole active volcano in the western half of Kamchatka; thick smoke rises constantly from its crater. South of the Icha the character of the mountain range changes basically. North of the Icha,

•133 Tertiary sandstone and eruptive elements predominate; but to the south, on the other hand, slate, granite, syenite, and porphyry appear predominantly, forming more massive ridges and round peaks. Gradually the height is lowered, and the western mountain range flows together with the eastern line of mountains to stretch then in a line to the southern tip of Kamchatka. The western mountain spurs and parallel chains have numerous old volcano cones, which often rise far beyond the vegetation line. The slender, basalt pointed cones of the Eleuken and the Moreshatnaya Sopka should be mentioned here above all.

/296/ From the sea there rises slowly a treeless moss steppe, which is often designated also as tundra. It rises to a height of 200 meters and then rises rapidly in mountainous forms to a height of 600 meters, whereupon the mountain range zone follows. Only in the extreme north, where the Penzhina Mountain Range stretches to the sea, is the west coast itself steep and also often rocky. For the entire remaining course of the coast, it is flat and represents a leveling coast /Ausgleichsküste/ with numerous narrow bays and coastal lakes. [34] Many settlements, however mostly only small ones, lie in the damp coastal plain, which is in part also swampy. These settlements lie almost always on the lower courses of the rivers at a distance of 10 to 20 kilometers from the mouth, approximately at the border where the forest along the valleys from the mountain range runs into the moss steppe.

The eastern half of Kamchatka likewise forms a medium mountain range, but it has numerous high volcano mountains, whose thick andesite masses traverse the greater part of the land from the middle Yelovka in the north to the southern tip of the peninsula. The number of volcanos, of which 18 are still active, is far greater than in the western chain. The volcanos here lie mostly between the main ridge and the coast. Of the active volcanos, the following are the most important: The Shiveluch (3,335 meters) lies in the angle between the Yelovka and the lower Kamchatka. Its peak has six glaciers. The last eruption occurred in 1928. The Klyuchevskaya Sopka, which is likewise glaciated, rises to a height of 4,775 meters south of the point where the Kamchatka River breaks through the eastern mountain range. The Klyuchevskaya Sopka is the highest point on the peninsula. The volcano cone, which projects to its mighty height directly from the plain of the Kamchatka River with a slope inclination of 30°, is among the most impressive volcanos on the earth. Its last eruption

took place in 1931. However, the largest eruption took place before the arrival of the Russians in 1696, when a stream of lava flowed as far as the Kamchatka River in the vicinity of the village of Klyuchi, which lies 32 kilometers from the crater. Usually the peak is enveloped by a cloud of smoke, which in many cases rises 2 to 3 kilometers above the peak and from which a rain of ashes and stones often falls on the slopes. The crater has a diameter of 250 to 300 meters and a depth of 50 meters. Russian scientists were lowered into it in 1931. Their report (29) states: "Clouds of ashes and stones, many of which

29. Berg, L.S., Priroda SSSR /The Nature of the USSR/, (Moscow, 1938), p. 227.

gleamed in bright red colors, were thrown up 200 to 300 meters and fell down with a rumbling noise. Thick, dark gray smoke perpetually filled the entire crater opening. A sharp smell of sulfur gases and hydrogen chloride filled the air. In the crater itself evening twilight and darkness prevailed, and against this the stones glowing in bright colors shone out all the more sharply and clearly. Indescribable din and deafening noise filled the entire area. During the sixteen hours of the stay in the crater an especially heavy eruption occurred. A mighty cloud rose up to the /297/ heights and poured a hail of glowing rock over the crater."

In the vicinity of the Klyuchevskaya Sopka lie the volcanos Ploskaya and Zamina, which are likewise covered with permanent snow, and farther to the south is the 3,682 meters high Tobalchik, which is known for its immense crater and for the largest glacier in Kamchatka. Farther to the south follows the Kronotskaya Sopka (3,620 meters), which was regarded as extinguished until it suddenly awoke again in 1922. At its foot lies the 128 meter deep lake of the same name, which apparently fills an old crater opening. Around it lies a series of high volcanos, of which the Uson deserves special mention. From its deep crater it throws up effervescingly through splits numerous hot springs which have temperatures between 52° and 85°. The Avachinskaya Sopka (2,731 meters), which at present is permanently active and which lies 30 kilometers northeast of Petropavlovsk, has a double crater and resembles Vesuvius in its structure and appearance, but it is more than twice as high. A last, larger eruption occurred in 1926. Since 1927 it has been throwing out ashes, steam, and gases continually. The lava of the Avachinskaya Sopka belongs to the

133 andesite type (172). Not far from the last volcano mentioned, the

172. Savritskii, A. N. Piat' let geologicheskikh isledovanii Kamchatki /Five Years of Geological Research in Kamchatka/. Problems of Soviet Geology, 1935.

mighty but quiet Koryatskaya Sopka rises to a height of 3,457 meters, and next to it is the Sopka Zhupanova (2,929 meters). South of Avacha Bay the mountain range has many valleys because of the rivers streaming off radially in all directions; but down to the southern tip of the peninsula smaller extinguished and active volcanos lie on the mountain range. The height of the mountains here rarely exceeds 900 meters. The last group of volcano mountains, with the Ilinskaya (855 meters) and the Kambal'naya Sopka (1,615 meters), rises over an extensive region of mountains, which are gently inclined and like ruins, in the extreme south around Kuril'skoye Lake, which is 306 meters deep and which represents an old crater.

312 Related to the phenomenon of volcanos is Kamchatka's wealth of warm mineral springs. Of these the Nalychevkiye springs between Avacha Bay and the Sopka Zhupanova are worthy of note. These springs come from an andesite layer with a temperature of 72°, and they contain a great deal of borium and arsenic, which is deposited in terraces. Interesting pictures develop in the winter when the steam rains down in the environs and forms fantastic ice figures.

133 The east coast, in contrast to the west coast, is richly divided up by inroads. The projecting peninsulas mostly end with a steep, rocky descent to the sea. The bays, on the other hand, have a broad, flat, treeless strip, which has its greatest size at Litke Bay. Avacha Bay, too, on which Petropavlovsk lies, is surrounded by a coastal plain, which, however, is narrower here.

[30] Enclosed by the high lines of mountain ranges, which protect it from the damp, cold, foggy, snowy, and rainy climate of the coastal sides, the central Kamchatka valley is distinguished by a more continental /298/ climate, which, dispite the harsh winter, is found more pleasant by man than the constantly damp coolness of the coast. The river valley itself is swampy but it is accompanied by a grass steppe, occupied by a spotty stock of birches. This grass steppe offers good conditions for breeding livestock and is not unfavorable even for agriculture. After the break-through to the east the Kamchatka River ends in a wide, treeless delta, which has a special economic significance because of

the schools of salmon which regularly press up the river here in immense masses for the spawning period. 133 [136]

The vegetation of Kamchatka, under the influence of the heavier rainfall and the milder temperatures, has another stamp from that of the forest landscapes along the coast of the Sea of Okhotsk, and in the southern part of the peninsula the vegetation even attains an extraordinarily luxuriant character. The bright, shining green of the deciduous trees dominates the picture, and only in the interior of the Kamchatka valley does the dark color of coniferous forests with Daur larch and silver firs appear. There is on Kamchatka no forest of the type of the Siberian taiga. The characteristic tree here is the birch, and in the first place is the stone birch (Betula ermani) with its gray to red bark. However, the birches never come together in thick stocks; rather they always preserve a certain distance from one another, thus giving rise to a kind of park landscape. Along with poplars, alders, and mountain ashes, the birch covers the entire area of the eastern coast. The landscape here is magnificent when the red fruits of the mountain ash glow out between the various greens in late summer. However, the growth of trees ends on the eastern slopes at a height of 300 meters in the north and at a height of 550 meters in the south. The all too great, cool dampness no longer permits the growth of trees. From the interior of the Kamchatka valley, however, the same birch forest rises to a height of 600 to 750 meters. In the underwood of these forests the Kamchatka honeysuckle (Lonicera edula) is especially worthy of note. Its black-brown fruit is collected in August in large quantities as food by the inhabitants. At heights of 300 to 550 meters the birch forest gives way to the already often mentioned bent wood vegetation, which is especially typical for the mountainous sections of Kamchatka. It consists here of a confusion of entwined branches of creeping alder, Siberian stonebirch, and mountain ash, between which individual rhododendron types grow. These bushes cover whole areas and slopes, and are often so matted that a path through them must be made with an axe, unless one wants to follow a bear path; for the bear has withdrawn into this thicket and is still preserved today in larger numbers. At approximately 800 meters this bush formation ends and is replaced by the zone of the Alpine flora, which generally reaches up to a height of 1,400 meters. The glacier line on Kamchatka lies at a height of 1,500 to 1,700 meters, and thus most of the volcanos have a snow cap, many volcanos are half covered by snow caps, and the Klyuchevskaya Sopka even is covered two-thirds by snow caps.

133 These volcanos, /299/ projecting far beyond the general level, give the landscape of Kamchatka its peculiar picture.

137 The bottoms of the valleys, if they are not too very swampy and covered with moss, have luxuriant meadows, which appear especially in the southern part of the peninsula and which offer excellent [231] grazing ground for livestock. The introduction of the breeding of livestock has, therefore, attained the greatest measure here, too. To be mentioned especially as characteristic of the landscape picture are the high-growing plants in these regions, especially the umbrella-shaped "sweet grass" (Heracleum tanatum or Heracleum dulce), [243] which grows up to 4 1/4 meters high and develops a stalk 12 centimeters thick. The natives use the juice of this rapidly growing plant [273] to sweeten their food; the Russians earlier extracted alcohol from the plant by fermentation.

133 137 Entirely in contrast to the forest and park landscapes of the mountain regions which are rich in vegetation, are the tundra-like moss steppes which stretch in a broad zone along the entire western coast. In the east, on the other hand, these moss steppes form only a narrow rim around the bays. Occasionally these steppes occur also in the valleys of the mountain ranges. These monotonous regions are depressingly dismal and gloomy especially when a veil of fog hangs over them and prevents seeing any distance.

161 The population of Kamchatka according to estimates, scarcely numbered 20,000 in 1914, and the native element was in the majority at that time. But after World War I and up to the present the population has multiplied because of the increased immigration of Russians, and by 1945 the population was given at around 100,000. Thus today the Russians are predominant, constituting approximately 80 percent of the total population. Today their number is estimated to be at least 150,000. The sedentary population is divided among three lines of settlements: the east coast, the west coast, and the Kamchatka Valley.

563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

with islands.

361 The main locality on the west coast is Bol'sheretsk. It is the
228 center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

• 133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

The coasts are rocky and steep and are torn up into adventurous, picturesque forms by the heavy breakers. Thus the coasts project a romantic-dim picture in the fog. Thousands of birds make their home on the rocks. 133

The Commander Islands have become famous for the catching of sea otters (seals) there, but this wealth is almost completely destroyed today. The 600 inhabitants, which consist of a mixture of Aleuts, Russians, Eskimos, Kurils, etc., live almost exclusively from what the sea offers them. On the land itself foxes are hunted. 225 161 224

The Kurils

The island garland of the Kurils came to the Soviet Union after the end of World War II. These islands are not too well known, and therefore somewhat more space is to be devoted to them. 133

The Kurils, along with Hokkaido and Kamchatka, form the most northerly arc of the outer frame of the east Asiatic continent. The Kurils represent a connection between the volcanic massif of Hokkaido Island and the volcanos of Kamchatka. To the island chain belong 36 islands which are larger in terms of area, 20 smaller islands, and many uninhabitable rocks, which often barely project from the sea. According to the local division of the islands, the Kurils can be divided into a 1,200 kilometer long main chain, which begins in the north with Shimushu Island and ends with Kunashiri Island off Hokkaido, and into a second, parallel chain, which, however, is only approximately 100 kilometers long. This shorter chain begins at Hokkaido with Nemuro Island, stops with Shikotan Island, and lies east of the main chain. The entire area of the Kurils is given at 15,600 square kilometers, of which 40 percent is on the four largest islands, namely Etorofu, Paramushiru, Kunashiri, and Uruppu. The most northerly island in the chain, whose name is Araito, lies under 50° 58' N latitude, while the most sourtherly lies under 43° 26' N. The Kurils, therefore, lie approximately at the latitude between Leningrad and Burgas in Bulgaria.

/304/ The understructure of the Kurils rises like a mountain ridge from the floor of the sea, whose highest parts project beyond the surface of the water as islands. The slope of this submarine ridge has various forms. Toward the Sea of Okhotsk it declines relatively steeply to a depth of 3,000 meters (the greatest depth is 3,374 meters). The slope toward the Pacific is bigger, for here the Kuril deep sea

0133 graben extends along the island chain. This graben has depths between 7,000 meters and 8,000 meters, and its greatest depth is 8,514 meters. The descent to this extraordinary depth occurs still more quickly than on the western side. With individual islands the 200 meter isobar often lies right off the steep decline of the rocky edge of the shore. The islands are separated from one another by sea straits, which are of greatly varying width and depth. Busole Strait, which is more than 2,000 meters deep, and Muzhir Strait, which is 1,800 meters deep, have the greatest depths. All the other sea connections only have depths under 600 meters, and they are in part also only very shallow. A limited exchange of water between the Pacific and the Sea of Okhotsk takes place via these sea straits.

According to the results of research to date, the Kuril chain lies on the surface of an old fault zone, which is buried deeply in the sea and which is of Paleozoic and Mesozoic age. This fault zone was submerged in the formation of the east Asiatic geosyncline. The formation of the latter began in Lower Cretaceous. Miocene was the time of increased sinking, in which thousands of meters of sediments were deposited. On the other hand, the sinking caused faults, strains with thick intrusions of magmatic masses on the eastern edge of the geosyncline, i.e., along the line of the present-day Kurils. At the end of the Tertiary extended longitudinal and also cross breaks came into being. Along the longitudinal breaks there were eruptions and further elevations, while on both sides the ground sank down and formed as an end result a narrow mountain ridge accompanied by deep channels. Thick lava intrusions followed and led to the metamorphization of the sediments broken through. Mighty masses of lava flowed out and formed volcano cones, which projected from the sea as islands. The movement of the earth's crust and the formation of islands have also not been concluded in the present and are shown in the intensive volcanic and seismic activity and also in the elevation of the islands, to which numerous sea terraces give proof.

Almost all the islands consist basically of eruptive rock (andesite lava and tufa); only most northerly (Shimushu) and the most southerly (Shikotan) are formed exclusively from sedimentary rock. On some islands there appears under the lava covering heavily dislocated and metamorphized slate of Paleozoic and Mesozoic age. Also weakly processed formations of the Tertiary are shown in some basins.

The Kurils are typical volcano formations. Fifty-two volcanos

have been /305/ counted on them. Of these eighteen are still active today. Of the latter the highest are the Syrycheva on Matsuwa Island and the Prevo on Shimushir Island. The Syrycheva is 1,485 meters high, and the Prevo is 1,360 meters. Extinguished volcanos attain greater heights. According to their structure, the majority of the volcanos are the layer volcano type. The present volcanic activity varies greatly from volcano to volcano. With many (Raikoke, Shimushir), the entire cycle is gone through, from subterranean rumbles to the outburst of gases, the throwing out of ashes and bombs /Bomben/ and finally the explusion of lava. With other volcanos (on Matsuwa and Chirinkotan Islands) the lava flows quietly without collateral phenomena. With many volcanos only one crater exists, with others side craters break out, while constantly working fumaroles form over the splits.

The northwestern part of the Pacific Ocean is distinguished by heavy earthquake activity. Of all the seismic occurrences of the earth which are known, 37 percent occur in the area, and the bulk of these occur in the Kuril chain. The appearance of earthquakes varies greatly within the area of the islands; with many islands they occur up to seven times a year, with others they occur less often. For the most part the earthquakes are related to tectonic occurences on the floor of the sea. The earthquakes have their epicenter as a rule deep under the floor of the sea. Very often submarine outbreaks also result. In many cases there is a connection with the volcanic activity on the islands. The earthquakes themselves do not have the greatest destructive effect on the islands; rather the submarine occurrences do, since they often produce mighty flood waves which storm against the islands with great force and repeat themselves several times. Flood waves of this type have been observed with a height of up to 27 meters. In 1780 a ship lying in the harbor was carried onto the land 400 meters in the interior of the island by such a waves.

The orography and the forms of the Kurils vary greatly. Usually the larger island is traversed lengthwise by a single mountain ridge, which mostly fills the entire island. In many cases also there are two to four mountain chains, or the islands are taken up by an entire system of individual mountains. The mean height of the mountains lies between 500 meters and 1,000 meters, but thirty mountains have been counted with heights between 1,000 meters and 1,300 meters, and there are twelve mountains which exceed 1,300 meters. The northern island, Araito, has the highest mountain, the volcano Oyakopa, which

•133 is 2,334 meters high. It is covered with permanent snow, which comes down the slopes to 800 meters. There is also permanent snow on the other very high mountains. Plains and hilly areas occur very seldom on the islands. The gently rolling Shimushu Island in the north and Shikotan in the extreme south constitute a rare exception. Neither, as has already been stated, is formed from volcanic rock, but rather from sediments, and they are regarded by many researchers, therefore, as parts of the mainland which have been cut off.

/306/ The volcanos in their forms are a true collection of models of all types from the ideal volcano cone to volcano ruins. Craters of old volcano ruins on the coasts which are filled with sea water form excellent, protected bays such as, for example, Buron Bay on the island of Shimushir. This bay is 200 meters deep. Often small island groups, through their circle-shaped ordering, indicate the existence of a submarine crater.

In their horizontal division most of the islands show regular forms. Besides round to oval islands, which as a rule are crowned only by a volcano group, there appear above all long stretched out islands. The latter apparently have come into being by the growing together of individual islands. To accomplish this the base was enlarged through an elevation of the land, and the holes were filled by the flow from volcanos. In addition to these two main groups there are also isolated examples of very much torn up islands. The coastal forms are almost everywhere the same. The predominantly steep slopes in the interior of the islands become gentler toward the coast, but then they descend to the waterline in a steep descent which is often almost perpendicular. Off the coasts and between the islands there are numerous rocks, reefs, and banks, which are very dangerous for ships. Volcanic eruptions and earthquakes bring forth manifold changes in the course of time, often within short periods of time and before the eyes of men. Thus in 1937 a volcano island emerged from a depth of 800 meters approximately 20 kilometers off the coast of the island of Araito. The force of the sea is continuously active on the coasts. Washed-out grottos and niches are everywhere to be found in the steep slopes. The most important occurrence, which, however, acts differently in the individual sections of the island arc, is a general elevation. Beach lines and erosion terraces have been established on the slopes up to a height of 300 to 400 meters.

Weathering is very great. On the heights and slopes lie hurled off, angular pieces of rock, which, when the inclination is greater,

tumble down and form true "rock seas" at the foot of the mountains. The river valleys are deeply etched in the mountain massif and extend from the highest elevations radially to the sea. Often they end in bays, which are filled with deposits and thus afford favorable opportunities for man to go onto the land. In many cases, on their way to the sea these rivers have dug deep, narrow gorges in the volcanic stone, but often because of the elevation, the rivers have not had time to sink down to the level of the sea. Thus they tumble into the sea as a waterfall at the steep break on the coast.

The climate of the Kurils is raw and brings a cold, long, and relatively dry winter and a cool, damp summer. The climate stands completely under the influence of the monsoonal circulation of air. In winter northwestern winds prevail (70 percent); they have great strength (the monthly /307/ mean velocity of the wind is 14 meters per second) and there is slight relative humidity of the air (60 percent). In summer southern and southeastern winds prevail, but they generally are weaker than in the winter and are often interrupted by calms. The relative humidity of these winds reaches 90 percent. At the end of the summer and in the beginning of the fall very heavy winds, which can attain a velocity of up to 74 kilometers per hour, appear as spurs of southern typhoons. The fluctuations in temperature are not very great (21° to 23°), the mean temperature in the coldest month lies between -5° and -7°, and the mean temperature of the warmest month lies between 14° and 17°. The number of frost-free days is 120 in the north and increases to 180 days in the south. The rainfall ranges from 750 millimeters to 1,000 millimeters, and in the course of the year it has its maximum in August/September and its minimum in January/February. Only approximately a third of the days are without rainfall. Snow begins to fall already at the end of October and lasts on the northern islands until the beginning of May. The snow covering reaches a thickness of 100 centimeters. The cloudiness is very heavy. On many islands only 15 to 30 clear days have been observed in a year. The most beautiful season is the fall, which has the most still and rain-free days. Characteristic phenomena of the Kurils are the numerous thick fogs, which appear primarily in the summer and arise when warm-damp air masses from the Pacific move over the cold Oyashio /Okhotsk Current/. The fogs, as a rule, do not have great thickness, and thus the peaks of the mountains often lie in the sunshine, while all the rest of the island is enveloped in thick fog. The fogs are an extraordinary hindrance to shipping and bring many dangers. From

Remarkably enough the valley of the Upper Angara, which 133
stretches far to the east between glaciated mountain ranges (Upper Angara Range in the north, the Barguzin Range in the south) was not exposed to glaciation.

Also south of Lake Baykal the mountain ranges had glaciers, which in the valley of the Slyudyanka and Pokhabikha reached the level of Lake Baykal in the form of valley glaciers. Here more than 25 glaciers have been counted in an area of 60 square kilometers, but these were all only insignificant ones which at most had a length of 10 kilometers. The landscape is rich in gorges, which lie at very different heights ranging from 50 meters to 600 meters above the present level of Lake Baykal (454 meters above sea level). Thus the Ice Age snow boundary must have been very low here in comparison with the neighboring Sayan (around 2,000 meters) and the northeastern Baykal area (at least 1,200 meters). An explanation for this striking appearance can be seen in the fact that Lake Baykal itself even in the Ice Age /51/ exerted an influence on the climate of the surrounding areas, an influence which was especially noticeable here in the southern part where even today the rainfall is high. The slope of the Khamar-Daban turned toward Lake Baykal is the rainiest area in Transbaykal. But in addition there is the fact that southern Lake Baykal is an area of recent depression, which continues even today, and accordingly the traces of the glaciers can also be regarded as subsequently dislocated.

There are also local glaciations in Transbaykal apart from the above-described glaciated areas. The best known are the glaciations of the 2,500 meter high Sokhondo and neighboring mountains, where gorges, trough valleys, and even moraines appear on the slopes.

Traces of an old glaciation have also been found in the Dzhugdzhur, in the Stanovoy, which extends up to 2,482 meters in height, in the Tukuringra Range in the heights on both sides of the Zeya break-through, and in the Yam-Alin (2,215 meters). However, the signs are but slight throughout and appear only in a limited area, and accordingly here there were at most individual dotted glacier formations.

The Permafrost and Its Significance

The largest part of the Soviet Russian Far Eastern region lies 137 134
in the sphere of the permafrost or the Eternally Frozen Earth, as this

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134 appearance of nature is also named, and this therefore deserves special treatment within this work. The Soviet government has specially undertaken research on this phenomenon, which is typical of the largest part of Siberia and also for parts of the European north; the government has erected eight permanent research stations for this purpose, of which four are in the regions being discussed: namely, in Petrovsk (Transbaykal), Skovorodino on the railroad line north of the northern arc of the Amur, Bomnak in the trough depression of the upper Zeya, and in Anadyr'. In addition to B. Shostakovich, M. Sumgin especially has done great service in research on permafrost. Orientation on the extent of the permafrost is given in the attached sketch map, which is based on Russian sources. This map shows that the only areas completely free from frozen ground are the areas on both sides of and between the Zeya and Bureya rivers and perhaps the area east of the Bureya Mountain Range, including the entire Ussuri country and the Maritime Krai. Frozen earth is not found in the larger southern part of Kamchatka and on Sakhalin Island either.

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In the areas which are dominated by permafrost, the ground thaws in the summertime only superficially in a layer whose thickness varies considerably with the locale, and under this layer lies the permafrost, i.e. a constantly frozen layer of earth, which likewise is of varying thickness. The upper layer which thaws in the summer, is called "active" (deiatel'nyi sloi) /52/ by the Russians, and only it is the bearer of organic life. In the majority of cases the pieces of earth in the permafrost area are so strongly cemented together by ice that the ground gives way only under the blows of a crowbar. However, this sign of linking together by ice must not be used as the sole means of determining whether the ground should be classed as eternally frozen; rather this classification depends above all on the temperature. Thick rock can also bear permafrost, although no external changes can be discovered on the rock.

In the winter the ground freezes from the surface down. In many cases, then, the winter freeze and the permafrost grow together into one unit, but in most cases there remains between the two an unfrozen horizon, whose water under special morphological conditions, especially at the foot of slopes, breaks through the upper frozen layer or is pressed out by the pressure from above of the frozen earth. This leads to formations of ice on top of the ice (Naled'), which, since the water flowing out freezes again and again, can often extend over a large area and can attain a thickness of more than one, indeed of two meters.

1 [i.e. permafrost -- Analyst]

Or, under specific conditions, ice kernels form within the earth. 132 134. These ice kernels grow and press the upper layers of the earth into a hill, which then in the warm season collapses again. As a result a lake is frequently formed in place of the hill because of break-throughs in the earth. Generally the existence of frozen earth permits the absorption of the surface water only to a certain depth, and accordingly the rainfall for the most part must flow off on the surface. The irregular water flow of the rivers in these regions often goes back to this phenomenon. Thus the contrast between the high and low water lines is very great everywhere. At the confluence of the Shilka and the Agrun, the Amur passes, as its annual mean 1,200 cubic meters of water per second, while the minimum during the year is only 125 cubic meters per second. Heavier rainfall makes itself felt immediately in an often flood-like rise in the water being passed in the rivers. The thawing of the surface layers of the earth, especially in areas with varying morphological formations, offers the best conditions for ground flows. Thus the domain of the permafrost is the classical land for landslides and solifuction.

But, in addition to these numerous and very interesting natural 132 phenomena, the effects of the permafrost on man and his economy 134 must be mentioned; these effects are apparent everywhere in the per- 499 mafrost domain and often bring difficulties. Through freezing the volume of the water expands, presses the ground upward in places, and causes destruction of transportation installations. Deep tears occur in the railroad line, and through these tears mud and water from deeper layers often push out, /53/ /Mapof the permafrost area:/ /54/ freezes on the surface, bursts the splits open farther, and forms high bucklings, and thus gradually the roads become unusable. With the setting in of the thawing weather, everything sinks together in mud and pulp.

In addition the roads and especially the bridges are by preference the starting points for ice building on ice. As an example [491] Sumgin points out the road built from Bol'shoy Never on the Amur railroad, via Tyndinskiy and the Aldan gold region, to Yakutsk on the Lena. This road should be usable for trucks the entire year. Out of the entire length of 1,300 kilometer, on the southern part alone between Bol'shoy Never and Tommot, which is 728 kilometers long, 117 formations of ice on top of ice were counted in the winter of 1927-28. These formations caused serious destruction, especially on bridges which were as a result partially raised up, made crooked, and gradually

Map of the Permafrost Area: /53/

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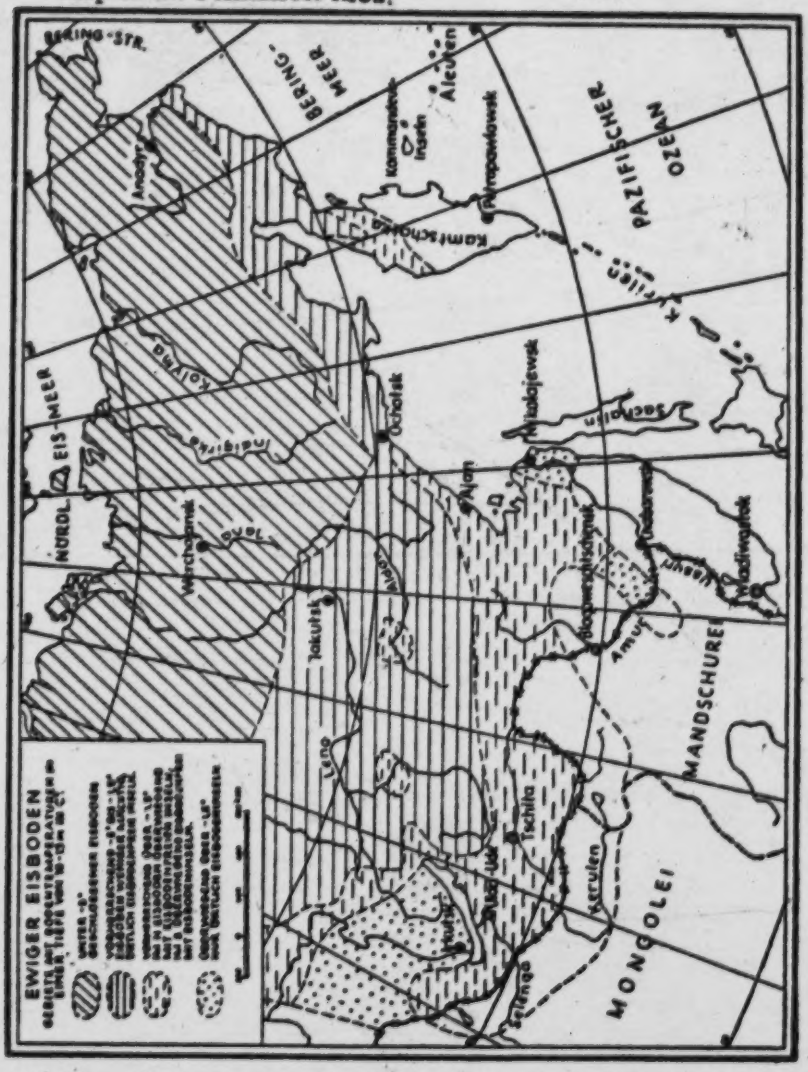

Areas with Ground Temperatures in Celcius Degrees at a Depth of 10-15 Meters:

Under - 5°
Closed-off area of frozen ground.

Predominantly - 5° to - 1.5°
Frozen earth less thick
Islands here and there where the ground is not frozen.

(Captions continued on following page)

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Predominantly over - 1.5°

In the north predominantly frozen earth with islands where the ground is not frozen. In the south for the most part the ground is not frozen butthere are islands where it is.

Predominantly over - 1.5°

Only in places are there islands where the ground is frozen

132 134 479 made unusable. In the spring after the melting away of the ice, the bridges completely collapse. The population claims that earlier formations of ice on ice occurred only seldom in these same regions. Thus it must be assumed, and Sumgin also points this out, that the formations of ice on ice are encouraged by the building of roads. Through trials and experience, various new methods of road-building have been found which hinder this damage, but it can not be entirely eliminated. In general terms it can be said that in the areas of permafrost road-building is very difficult, requires a longer time, and is done at much greater cost than in other regions.

Of a similar type are the difficulties encountered in building and maintaining railroad lines. In addition to the pulsation of the earth, landslides and solifluction are regarded as being especially dangerous here. In building the Amur railroad line all these hindrances and difficulties became known in detail. Often, without regard to the cost, the lines had to be laid entirely differently from what had originally been planned. Especial difficulty was encountered in providing water for the railroad in the winter in the areas of permafrost. Water had to be drilled from layers which lay under the permafrost. In many places water had to be procured in kilometer-long, heated conduits. A comparison of costs shows best how great the difficulties were in building the Amur railroad line in the areas of permafrost and to what extent these difficulties increased the costs here versus those in other regions. The building of the great Siberian Railroad (as far as Sretensk in Transbaykal), including all preparatory work, required as a mean an expenditure of 67,737 rubles per verst, while the western part of the Amur line from Kuenga to Kerak, whose total lenght is 597 verst, required for pure building costs an average expenditure of 158,000 rubles per verst. Also the maintenance of the railroads requires larger outlays, since the railroad lines, and especially the bridges, require constant and very careful inspection, in order to be able to take /55/ protective measures in time at the slightest sign of any destruction whatsoever. Thus in the course of the year position changes were determined on 50 out of a total of 80 bridges on the Amur railroad, and these position changes had to be eliminated by protection and rebuilding measures.

132 134 342 The permafrost also plays a noteworthy role in the method of construction. Apart from the direct effects of the cold, the buildings in the sphere of the permafrost are subjected to the danger of gradual decay. The reason for this lies principally in the fact that the ground

under a building freezes little if at all during the winter. V.G. Petrov (154) writes on this subject: "The house stands as though on

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154. Petrov, V.G. Naledi na Amursko-Iakutskoi magistrali /Formations Breaking Through the Ice (Aufeisbildungen) in the Amur-Yakutsk Magistracy/. Academy of Science, Moscow, 1930.

the edge of a frozen crust. If now this crust begins to thaw, its edge spreads the house lengthwise and widthwise, and the damage begins." This leads to general deformation of the house and to the gradually sinking in of the house into the ground. Sumgin points out that this danger is caused above all by so-called "swimming" masses, which form under the house and which can be traced back to the changes in the thermic conditions in the ground. With larger structures of several stories, they can often be caused by the pressure of the structure alone. In individual cases it happens that the water in the earth, which lies between the winter freeze and the permafrost and which is under a certain pressure, finds a way into the open underneath the house. It penetrates into the cellar and even into the living quarters and forces the occupants to leave the house. Not uncommonly the penetration of the water occurs so quickly that the occupants do not succeed in rescuing all their possessions from the rooms. The regions of permafrost require construction methods which counteract these dangers. As a rule an attempt is made to lay the foundation so deeply that it has a firm position in the permafrost; to do this, mostly wood or reinforced concrete palings are inserted into prepared holes deep in the permafrost. In the construction of new cities and plants the question of a sufficient and secure foundation plays an important role, and it also is an important factor in the cost estimate. In building the city of Magadan, where apartment buildings with up to six stories were erected, thick layers of earth had to be removed in order to install the foundations so that the foundations became frozen fast into the ground. The sides of the foundations were protected by insulating layers. Often the foundations were entirely embedded in insulating layers here. In order to eliminate all these difficulties, M.M. Kryllov, whom Sumgin cites, had drawn up a plan to be carried out with the help of modern cold technology; this plan envisaged keeping the ground within the construction installations always under a certain temperature with the goal either of preserving the permafrost at a certain depth or even of raising it. However, this proposal has been tried out but little in practice.

000 even of raising it. However, this proposal has been tried out but little in practice.

132 /56/ In addition to the general water supply, the supplying
● 134 of drinking water in the permafrost regions in winter causes many
312 difficulties, especially for larger settlements. Since many rivers freeze to the ground, the water must often be gotten from far away. In many places artificially caused formations of ice on top of ice are used to help in smaller settlements. But it would lead us too far astray to go into detail here on the various and often also unique methods of procuring water.

132 The permafrost is also of great importance in connection with
134 mining and with the extractions of natural resources generally. In
316 pit mining the permafrost sets great hardness against the invasion of man. Even diamond drills fail sometimes, and, if the motor stops for even a moment, the drill freezes fast in the water of the hole being drilled. The pits and galleries are mostly firm and hold even without supporting beams, the danger of chokedamp is slight, and also ground water seldom appears, and only occasionally do water break-ins occur. In open mining the permafrost must be dynamited, but then the blocks knocked loose turn into bulky pulp. Gold extraction has to overcome special difficulties in the working of gold wash-works which mostly are in the permafrost and lie under a thick, unfrozen layer of earth which can be removed rather easily. In the most important gold regions the most modern machinery is employed to process the gold-bearing sand in one vein with everything from dredge to dressing-floor, but all these technically complete establishments conduct a difficult battle with the permafrost, whose hardness gives extraordinary resistance. The natural thawing under the air temperature of the summer proceeds so slowly that man must help it along. The primitive thawing with the aid of wood and coal fires has disappeared, and jets of water also do not suffice here. At present, steam is employed everywhere, and new announcements report that the use of electricity is being considered for the future.

132 The role played by permafrost in connection with vegetation
134 is many sided, but the mutual relationships are still too little clarified. For the agrarian economy the permafrost is a more favorable factor as a source of ground dampness, especially in the interior which suffers from a shortage of summer rainfall. Here the dampness of the ground is a natural compensation. It is due to the exploitation of these favorable conditions that Soviet Russia has succeeded in spreading agriculture,

if not in large areas, yet sporadically toward the Polar Circle, where cultivated areas are to be found to a greater or lesser extent near all settlements as far as north of Magadan. These cultivated areas serve as a source of local supply. 132 134

/57/ The Climatic Conditions

The climatic conditions are determined by the seasonally changing contrast of the barischen /baric?/ relationship between continent and ocean. In winter dry air masses flow toward the ocean; the summer sea wind on the other hand brings dampness into the land. Accordingly the influence of the ocean is limited to the true Far Eastern regions whose waters empty into the Pacific. These regions accordingly form a climatic unit. As a consequence of the regular seasonal climate changes, these regions belong to the East Asiatic monsoon area, whose typical character is clearly stamped everywhere and has its effect as far north as beyond 60° latitude. Only Transbaykal lies outside of this unit. Its inland location allows the continental traits to appear much more sharply. But the summer monsoon also makes itself felt here as far as the Yablonovyy Mountain Range. 132

The following climate areas in addition to Transbaykal can be differentiated according to their general character: the Amur-Ussuri area, the southern coastal region, in which Sakhalin is also included, the northern coastal region including Kamchatka Peninsula, and the Anadyr' region. The important distinguishing features are included in the following chart:

Area	Annual Rainfall in millimeters	Number of months with a mean over		Annual Temperature Variation
		5°	10°	
Transbaykal	200 - 340	5	3	42° - 52°
Amur-Ussuri Region	525 - 620	5	5	42° - 48°
Southern Coast	540 - 760	6	4	30° - 34°
Sakhalin	500 - 750	5	4	28° - 35°
Northern Coast	300 - 900	4	2	33° - 37°
Kamchatka	500 -1,000	4	2	23° - 32°
Anadyr'	190 - 200	3	3	40° - 45°

Transbaykal has very slight rainfall and great temperature

241 Chinese. This method of cultivation, of course, demands more work, and the Russian clinging to his customary methods naturally struggles against it. With the beginning of collectivization the kolkhoz have employed specially constructed sowing machines which take these special conditions into account.

North of the Amur region the natural conditions for agriculture become more unfavorable. The reason for this, however, does not lie in the increasing coldness of the winter but rather above all in the shortening of the vegetation period. These regions, therefore, de-
[242] pend on cultivated plants which ripen quickly. In this connection the Soviet Union has attained successes worthy of recognition in the development of types which ripen quickly and in the use of special methods of preparing seeding (Yarovisation). The Soviet Union has succeeded in moving significantly farther to the north the outer limits for grain cultivation.

• 134 The earth in Transbaykal in the areas preponderantly covered by forests belongs predominantly to the podsol type; numerous varieties of earth have been formed which sometimes approach loamy soil, sometimes sandy soil, according to the clay content. In the river valleys marshy and semi-marshy soil is widely diffused. The vegetable mold content of the podsol soil is only slight, being 2 percent to 3 percent; in marshy soil, however, it is large, being 15 to 30 percent. In the forest steppe areas and in the steppes of Transbaykal the soil is relatively rich in vegetable mold. East of the Yablonovyy Ridge typical black earth has even developed as far as the Argum. Interesting is the fact that the various slopes of the same ridge often show a different soil profile which corresponds with the plant growth. The north and northwest slope is covered with taiga, under which typical podsol soils lie, while on the east and southeast slopes, which are taken up by loose collections of birches, there is little or hardly any podsol; indeed, according to its external signs it already passes over here into the dark chernozem type. In the Amur and Ussuri country podsol and marshy soils with all their transitional forms take up the greatest part of the land. The soil of the Zeya-Bureya lowland and of the Ussuri-Khanka depression--the principal agricultural areas--consists essentially of young, fruitful alluvial deposits. The dark color of the upper layer of soil, rich in vegetable mold, misleads one into designating it as chernozem, black earth, but in reality it is semi-marshy meadow soil with thick layers of vegetable mold. In the dry spots this soils does in fact recall the black earth in its physical

characteristics and its structure, but in lower, damp places it clearly shows its semi-marshy origin. 134

In general, however, podsol soil predominates here; it is but a little inferior in quality to the same soils of North Germany and Central Russia, and it is well suited for agriculture. According to general /127/ estimates, the area capable of cultivation is 200,000 square kilometers in Transbaykal, 110,000 square kilometers in the Amur county, and 150,000 square kilometers in the Ussuri region--thus a total of 460,000 square kilometers. In contrast to these opportunities, the area exploited thus far for agriculture was only 1,877,900 hectares (1938) and thus only a small proportion of the total area available. However, the area under cultivation has increased 60 percent since 1913, when it was 1,171,500 hectares; and this is a mighty accomplishment for this land so distant from central Russia. 311

The growth of the area under cultivation occurred differently in the various regions as the following chart shows. The area under cultivation has more than doubled since 1913 in the Buryat Mongol ASSR and in the Chita Oblast, and this increase has been continuous in the years of the Soviet regime. The natural conditions here are similar to those of the southern Russian steppe, and require no special adaptation on the part of the Russian peasants. Conditions are different in Khabarovsk Krai and in the Maritime Krai, as has already been shown. The cultivation of new areas here is behind that in Transbaykal and shows greater variations from year to year. The decline in Khabarovsk Krai from 740,300 hectares in 1928 to 580,800 hectares goes back to the beginning of the Five Year Plans which eliminated less productive land by means of planned management. It is remarkable, however, --as official Soviet statistics indicate--that there has been a regular year by year decrease in the area under cultivation in the Maritime Krai from 1932 to 1938. (The figures from 1932 to 1938 in 1,000 hectares are: 461.8--449.6--431.6--419.9--371.0--322.0--322.0--318.3.)

The above as well as the following figures are taken from the Soviet publication, "Posevnye ploshchadi SSSR" (11).

11. "Posevnye ploshchadi SSSR" /Areas under Cultivation in the USSR/. The Dynamics of 1928, 1932-38 in Comparison with 1913. Statistical Reference Work. Issued by the State Planning Commission, Moscow-Leningrad, 1939.

Both types of steppes[1] have developed on chestnut-colored 133
soil. Within these steppes salt-pans also appear. Further toward the 137
north the soil becomes darker, its humus content becomes greater (3 per- [134]
cent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock 231
breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat 242
have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large 282
leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the fore- 241
ground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important 231
animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area 361
around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into [234]
being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge 133
of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

133 Side erosion predominates. Gradually the ridges dissolve into hills. This landscape, designated by Presnyakov as the Gobi type, takes up the entire southern part of the Argun region. Here are the mountain steppes of the Onon and Argun. The Tarey Basin, which is also designated as Onon plain by Russian geographers, should be named as the third province. The Tarey forms a basin with no outlets and extends beyond the Mongolian border as far as the Kerulen. In the center lie the Tarey lakes, of which various ones cover a significant area. Thus the Barun Tarey covers 435 square kilometers, and the Sun Tarey covers 300 square kilometers. The countryside is for the most part level and is interrupted only by former river valleys and lake basins which are now dry. The /228/ remaining lakes lie 60 to 70 meters below the general surface, i.e. at an absolute height of 620 meters, but they are always still up to 5 meters deep. Despite the clear signs of recent drying up, water springs appear in many places on the surface. These springs form the centers of human life. The steppe character often gives way already here to wasteland forms.

The border between steppe and forest extends from Aksha on the middle Onon via Il'inskaya to the north to the watershed between Aga and Ingoda, then on the Ingoda to the east to the mouth of the Aga. From here the border circumscribes the Argun mountain country in an arc swinging to the south via the localities of Onon-Borzya, Akatuy, and Algachi. The border then turns again toward the northeast via Nerchinskiy-Zavod to the Argun.

Southeast of Chita there begins the Aginsk steppe, a true grass steppe, which takes up the river area of the Aga and the middle Onon. [231] Here lies the national oblast of the Buryat, who have made the area into an important livestock-breeding region. The Argun steppe takes up the entire southeast, where livestock breeding likewise dominates the economy. But here there are Russians, who pursue the breeding of cattle and sheep in large, specialized, state farms. In addition, [241] there are also some state farms for horse breeding. To the north of both steppes agriculture, with wheat as the main product, is diffused over a large area, and in a broad front it penetrates to the south. [361] Along the great rivers and also along the Argun the villages extend in a line through the middle of the steppe. The diffusion of agriculture ●[134] is favored by the circumstance that, despite the often very poor steppe vegetation, a horizon very rich in humus, a type of black earth, has developed under the pitted grass /Grasnarbe/.

ooo The wealth of natural resources is, however, of far greater

Range, which here goes up to the Amur. Toward the north the plain 133
extends into the river area of the Selemdzha as far as the spurs of the Tukuringra Mountain Range. Vast plains, formed by Tertiary fresh water deposits, warm, damp summers, extensive agriculture, a heavy population, numerous villages and little cities--all these are the main distinguishing marks of this region.

The southern part along the lower courses of the rivers is almost completely level and is often covered with old waters, swamps, and lakes. But even here dry islands rise in long, flat waves in the areas between the rivers. Morphologically, however, these dry islands are scarcely striking in the plains which generally predominate. Instead, something of a change in the vast monotony is brought by the paths of the rivers, all of which have a marked steep right bank which though not high, is still heavily gorged. The left meadow shore, which mostly is covered with swamps, then rises gradually to the watershed areas. The Bureya continues to show this asymmetrical shore formation even far into the mountain country. North of the Tom', a left tributary of the Zeya, the relief changes. It becomes rolling, hilly, and rises gradually toward the north. Here ends the contiguous 133
meadow steppe, which in its natural state has grasses as tall as a man 137
growing on it. These grasses have brought the steppe the name of "Amur Prairie." This meadow steppe makes way for a magnificent, peculiar forest steppe, in which the hills and high places are covered like islands with oak forests or bushes, while the meadow steppe continues in the lower spots. The dampness of the soil decreases, even though in spots there are often swampy places in the loamy soil. With the further rise toward the north the differences in height become greater, the valley areas become deeper and narrower. Coniferous trees appear on the mountains. The swampiness of the valleys begins to increase again. Slowly the dark taiga takes possession of the entire land, while in the background the rocky peaks of individual gol'tsy already rise from the contiguous greenery.

The significance of the Zeya-Bureya plain is based on the 134
extraordinary fertility of its soil. Tomashevskii (219) has investigated

219. Tomashevskii, I.I. Pochvy iugozapadnoi chasti Zeiskobureinskogo vodorazdela /The Soil of the Southwestern Part of the Zeya-Bureya Watershed/. Works of the Amur Expedition, Vol. XV. Petersburg, 1912.

•134 a large part of this region in this connection. In the southwest soils of intensive black color have developed on the heavy loam. This soil is covered with meadows and pastures with high grass. The black color is the reason that the first explorers put this soil in the category of black earth, and even today this soil is designated still as "chernozem" by the native population. But this is not black earth, for it lacks the granular structure, and also the heaping up of carbonates cannot be determined. During the summer the humus horizon is soaked with water, and in horizon B regeneration processes /245/ /Sketch Map of the Southern Part of Khabarovsk Krai and the Maritime Krai:/1/246/ go forward, which often point to light podsolization. This semi-marshy meadow soil, as Tomashevskii calls it, is, however, not inferior to black earth in fertility and is in a position to produce excellent wheat harvests year after year without any fertilization. As a rule this soil lies in higher places at some distance from the river valley areas, and it covers more than half a million hectares. Somewhat less fertile is a type of soil which is distributed in the deeper depressions and is likewise semi-marshy. This type of soil bears the designation of "miasigi" (kneaded mass /Knetmasse/) among the native population. Here, too, the deep black, upper horizon of soil has developed on heavy loam, but the signs of regeneration are more sharply marked. During the summer dampness horizon B becomes tough, sticky, and viscid like dough, so that, horses sink into the earth and the soil can be worked only with difficulty. In its natural state the "miasigi" is covered predominantly with sedge (Calamagrostis) and moss (Polytrichum) and thus already in its external picture stands [137] out from the relatively drier soils. Brighter podsol soils take up a large part of the Zeya-Bureya plain, especially toward the north and east, with white birches settling by nature on the heavier soils and black birches and oaks on the lighter soils. These trees were already known to the first Russian settlers as indications of the soil. The bleaching out varies gradually and is generally slight. The fertility of this soil is supposed to be equal to that of black earth. Above all this soil can be easily worked since the drainage is better.

During the dry period the Zeya-Bureya plain recalls the black earth steppes of southern Russia. However, during the rainy period the picture changes completely. Flat basins fill up to become lakes, valleys are flooded, and water even remains standing in level areas. Thus Tomashevskii has been very surprised how anyone could ever have arrived at the thought that black earth has formed here. The

1/1 [Cf. Cat. 116, pp. 282-283 - -Analyst]

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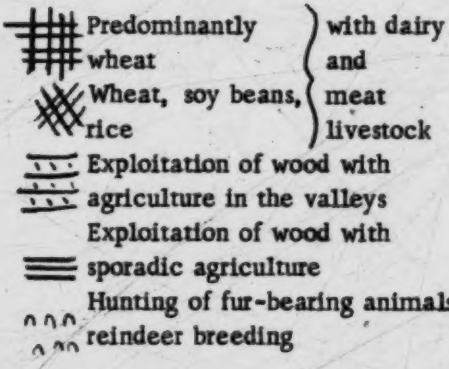
(Captions to Map on page 282)

1. Khor
2. Bikin
3. Lesopil'noye
4. Iman
5. Lesozavodsk
6. Spassk
7. Varfolomeyevka
8. Voroshilov
9. Artem
10. Suchan
11. Kraskino



black earth regions in southern Russia have a damp spring and a dry summer. Here it is the reverse: the spring is dry; the summer, on the other hand, is very damp. 134

On the lower Bureya red earth is diffused under lightly podsolized soil. This red earth is the product of the weathering of gray Tertiary slate, and it owes its brick red color to enrichment by iron oxide. This red earth indicates that the climate of the Tertiary period must have been much warmer than it is at present. Also on the lower Amur the same Tertiary red earth has been determined. "Grapes, cork trees, and tigers are vestiges of that time when the red earth was forming, while pines, firs, and reindeers harmonize very well with the present-day formation of soil of the podsol and swamp type," says Glinka (70).

70. Glinka, K.D. O drevnikh protsessakh vyvetrivanniia v Priamurie /On the Old Weathering Processes in the Amur Region/. Pochvovedniie, 1911.

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the Zeya and Bureya. Also the soil both in the Ussuri depression and also in the Khanka lowland is similar to that of the Amur prairies. Here, too, it is not black earth, as is still often reported; rather there is in the main muddy moor soil in the vicinity of the lake; this in turn is surrounded by a broad zone of semi-marshy meadow soil, and following then is weak podsol earth. The last two zones are cultivated almost everywhere, and the soil there can in every respect compare with black earth in terms of its yield. The zone of settlements, therefore, begins to the east and southeast of Khanka Lake but at some distance from the lake. If here, as in the Ussuri region, agriculture has to struggle with difficulties, the reason for this does not lie in the soil but rather in the climatic conditions, above all in the heavy summer rainfall. The winter is very cold and brings only a very thin covering of snow, and thus the ground freezes to great depths. Berg (27) states that at Voroshilov the ground freezes to a depth of up

[361]
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27. Berg, L. S., Landshaftno-geograficheskie Zony SSSR /The Landscape-Geographical Zones of the USSR/, (Moscow, 1931), Part I, 1. 372.

241

to 1.8 meters and at Grodekovo the frost even penetrates to depths of up to 2.4 meters. The planting of winter grain is, therefore, not advisable, nor is the planting of clover and lucerne advisable. The cultivation of winter crops is, therefore, always a risk. Further toward the south, in the Suyfun depression, winter rye is cultivated without danger. As a consequence of the deep penetration of the frost, the ground thaws out only late in the year. There is, however, no permafrost in the entire Ussuri region. The planting of summer wheat begins in mid-April to May, and the harvest begins in mid-August. Oats are sowed two weeks later, but are harvested at the same time as the wheat. The sowing of millet is done still later; the harvest, however, occurs only in the middle of September. The shortness of the time between the sowing and the maturity indicates the generally favorable conditions for the flourishing of the vegetation. The European types of grain suffer now under the dryness and under the strong winds during the sowing period, while during the summer they suffer from the great dampness, which makes fructification in the blooming period uncertain when it rains and which also endangers the maturing at harvest. All the better do the native cultivated plants /269/ flourish. With appropriate methods of cultivation European

000 catching of ocean fish in the Far East.

/137/ Natural Resources and Industry
Coal Supply

Transbaykal

•135 Transbaykal in general is not poor in coal, but this coal is divided among numerous individual supplies, which even today are in part removed from transportation and which are highly variable in quantity and quality. As a rule these coal deposits are all of Jurassic age and should be classified predominantly as brown coal in quality. There is no real hard coal in Transbaykal. The most important coal deposits are the following:

1. Tarbagatay, on the right side of the Khilok in the valley, between the Tarbagatay and Tolboga stations on the Transbaykal railroad. The Jurassic brown coal with a heating value of 4,979 calories lies in two seams, 8 meters and 4 meters thick, which are separated from one another by a 9-meter thick layer of earth. The entire supply is declared to be 50 million tons. The exploitation began already in 1890, and is at present carried out in several shafts; water break-ins make the work very difficult. Annually 200,000 to 250,000 tons are extracted.

2. Khalyarta. The coal lies in a terrace in the valley of the Tolboga, a tributary of the Khilok; the mines are 12 kilometers from the Tolboga station and 17 kilometers from the mines of Tarbagatay. The quality of the coal is the same as that of Tarbagatay, only the seams are less thick (4.5 meters and 5 meters). A branch railroad line connects the mines with the Transbaykal Railroad. The total supply is 1,335,000 tons.

3. Chernovskoye, 18 to 20 kilometers west-southwest of Chita, in the vicinity of the Chernovskoye station, where a city with more than 10,000 inhabitants has come into being. The coal lies in the valley of the Ingoda, on the left side of the valley between the two tributaries, the Chernovka and the Kadala, from which the coal apparently continues as far as the city of Chita. The brown coal, which has 5,000 to 5,400 heating calories, is of higher value than the coal in other deposits. Of the five seams, three, which are 1.0 meters, 2.5 meters, and 5 meters thick, have been exploited since 1914. They were begun with open work, but because of the climatic conditions they have now been turned into underground mines. The entire supply

•135 has not been determined exactly; the claims range between 19 and 33 million tons. Before the war the annual production reached 450,000 tons, but now, along with the mines of Bukachacha, these mines stand at the top in production in the Chita Oblast.

4. Kharamangutsk. The coal deposits lie approximately 4 kilometers from the Darassu station on the Transbaykal Railroad in the vicinity of the locality Kharamagutsk. The Jurassic brown coal lies in two seams worth mining; of these the upper seam, which is 1.8 meters thick, is being worked by two mines.

/138/ 5. Kholbon, 20 to 25 kilometers west-southwest of Nerchinsk, on the left bank of the Shilka, where the deposit with a width from 5 kilometers to over 8 kilometers extends along the river. Several mines supply the Jurassic brown coal with a heating value of 4,615 to 5,231 calories from the first and fifth seam, which are 2.5 meters and 14 meters thick. Both open-work and underground mining are used. The other seams are not worth mining.

6. Bukachacha is the most important coal deposit in Chita Oblast. It lies north of the Transbaykal Railroad in the valley of the Bukachacha River and covers an area of 25 square kilometers. It is connected to the Transbaykal Railroad by a branch railroad line 41 kilometers long, which was built in 1929. In all, nine seams have been determined, of which the largest is 6 meters thick. These nine seams, however, don't appear everywhere, and vary greatly in their stratification and quality. Tectonic occurrences have transformed a part of the Jurassic brown coal into a type of hard coal, which is also supposed to be suitable for making coke. Before the war four shafts were worked in underground workings, which were considerably expanded by new installations after the war. Bukachacha today stands at the top in production in Chita Oblast. The total supply is claimed to be 80 to 100 million.

7. Khara Nor, southeast of Borzya, approximately 2 kilometers from the Khara Nor station. The brown coal of Jurassic age here lies in a dry valley, 8 to 10 kilometers wide, under a Post-Tertiary covering of less than 20 meters. All told there are 10 seams here, but of these only two, which are 5 meters and 15 to 17 meters thick, are worth mining. The supply is numbered at 11 million tons. The heating value, which is 5,660 calories, is above that of the usual brown coal. Above all, special attention is called to the high content of volatile elements, which constitute 60 percent and which make the coal especially suited for use for the chemical industry. Mining was begun but then later

stopped. There are no reports on the present situation.

8. Duroy /possibly: Dauriya?/. The deposit is in the extreme southeast of Transbaykal and stretches along the Argun between the localities of Duroy and Kaylastuy. Three seams, which are 0.5 to 1.5 meters thick, extend here over an area of 20 to 25 square kilometers. The quality of the brown coal, which has a heating value of 5,254 calories, is good. The total supply is estimated at 30 million tons.

Still other brown coal deposits have been found on the Argun, but nothing is known of their size and quality.

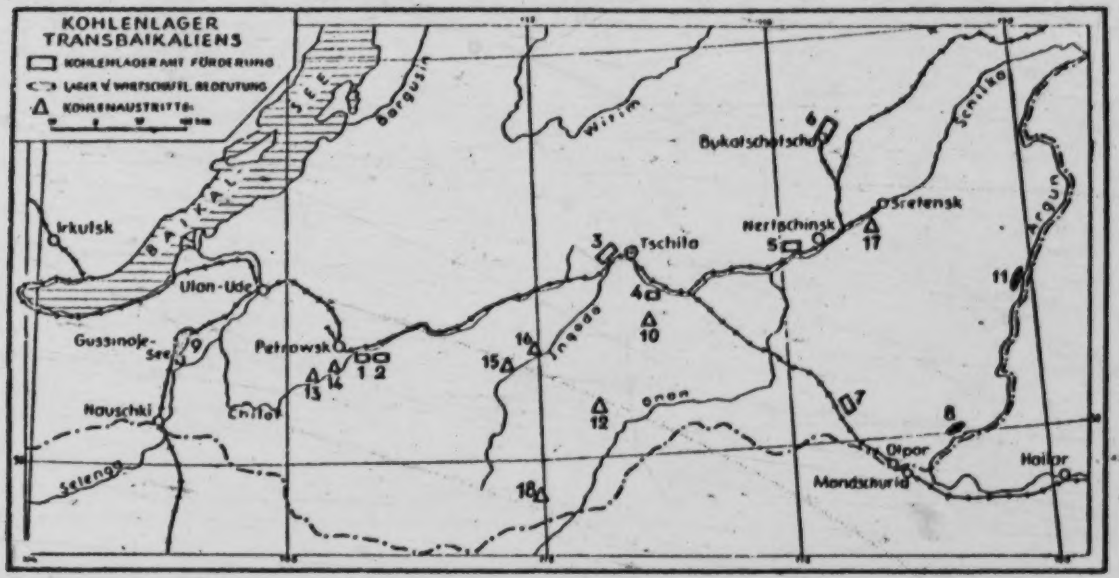
9. Gusinoye Lake. Only in the last few years, after World War II, have the size and importance become known of this deposit on the well-known "Goose Lake" in the Buryat Mongol ASSR. This deposit extends over a great distance northwest and southeast of the lake. All told seven seams, which are 0.80 meters to 9.25 meters thick, have been found. The total thickness of the seams worth mining is supposed /139 Sketch Map of the Coal Deposits in Transbaykal:/ /140/ to be 23 meters. The total supply is estimated to be 200 to 250 million tons. The quality of the coal suffers from the high ash content. In addition to the chemical industry, which has come into being on the Gusinoye Lake, the extraction of this coal is supposed above all to supply the railroad from Ulan-Ude to Ulan Bator. A power station based on this coal is already in production near Tomcha.

Still other supplies are known in addition to these most important coal deposits, but these others have still not been explored sufficiently, and there are no statistics available on them.

Amur Region

In contrast with Transbaykal, the Amur area has coal deposits which have the character and quality of hard coal, although these deposits are also Jurassic formation. The causes for this rise in quality in comparison with the Transbaykal coal cannot be ascertained everywhere in detail. It only remains to follow the sources and to give the corresponding figures. In general the Jurassic coal deposits in the Amur region are very strongly involved in the faulting process, and are divided into a large number of small deposits by elevations, depressions, and breaks along with the ensuing wearing down of anticlines. However, despite this splitting up, these small deposits, for the sake of a survey, can be classified together in individual large basins. Contiguous coal

/Sketch Map of the Coal Deposits in Transbaykal:/



- coal deposits with mining
- deposits of economic importance
- appearances of coal (Kohlenaustritte)

1. Tarbagatay; 2. Khalyarta; 3. Chernovskoye; 4. Kharamangutsk; 5. Kholbon; 6. Bukachacha; 7. Khara Nor; 8. Duroy; 9. Gusinoye Lake; 10. Tyrgetuy; 11. Chalbucha; 12. Ureya River; 13. Katayeva; 14. Kuli; 15. Klyuchevsk; 16. Gorekinskoye; 17. Matsiyevskoye; 18. Brytse River.

/139/

S: Thiel-155K-4.5(no date) 1953 RE. Siberia RR1

●135 fields of a more or less large size occur only rarely.

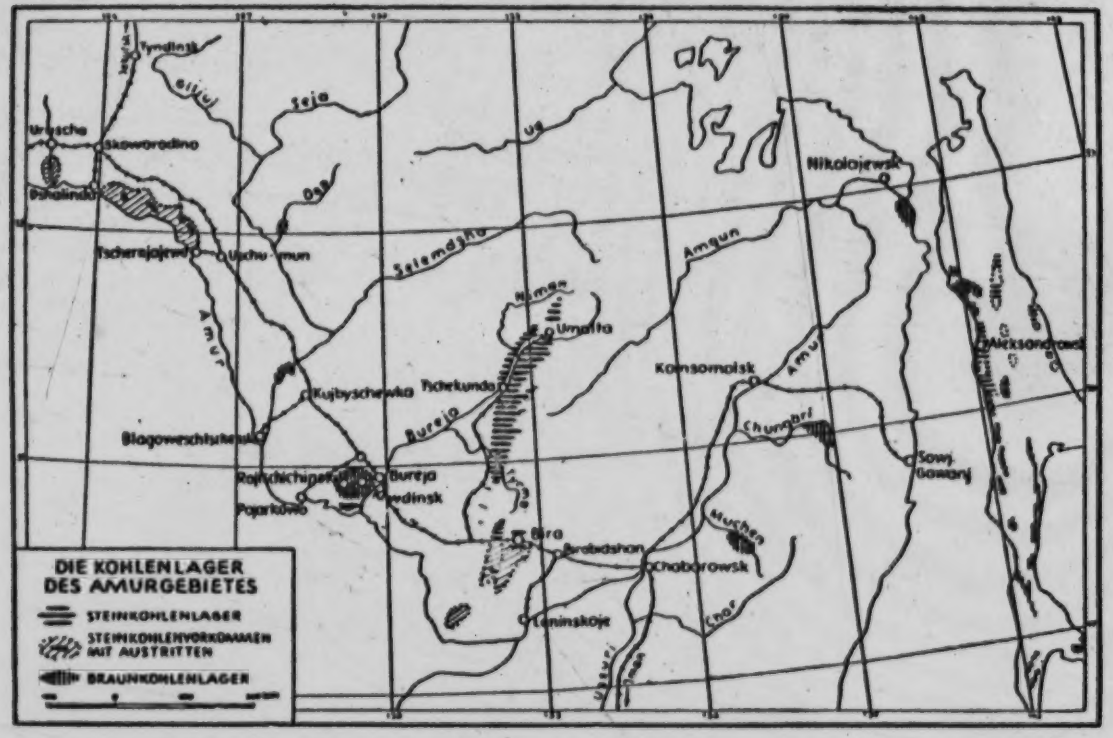
Hard Coal Deposits

1. Birobidzhan. The hard coal deposits here are a continuation of the Hegan coal fields in the Lesser Khingan, which extend from the Manchurian side over the Amur toward the northeast. In Birobidzhan these coal fields appear in numerous small deposits in a total area of 250 square kilometers. The most important deposits are near the city of Bira on the Amur Railroad and extend above all in the valley of the Turuk (Russian Birsko-Turuskoye Deposit). Near the Bira station the coal appears at the surface in a "coal mountain" and is mined here in three seams which are 0.75 meters, 0.70 meters, and 2.10 meters thick. A second deposit lies near the Londoko station and extends toward the north in the valley of the Kamenushka. The other deposits are insignificant.

2. Upper Bureya. Here are the largest coal deposits in the Far East in terms of area and supply. They extend over a total area of more than 4,000 to 5,000 square kilometers, and in this the geological border has still not been exactly determined. The coal-bearing layers extend only slightly on the right side of the Bureya and are limited here in the bulk to a long stretch of 180 kilometers in the region between the Umalta and the Niman. On the left /141//Sketch Map of the Coal Deposits in the Amur Region/ /142/ side of the Bureya the deposits have a greater width; for example, at the tributary, Urgal, seams are found up to a distance of 65 kilometers from the mouth. The complexity of the stratification, caused by tectonic formations, is a great handicap both in exploring and also in exploiting the deposits. The conditions appear most favorable in the central Urgal valley, secondly in the Yoreksko-Olonzhinsk Rayon, and thirdly along the Bureya from Ust'-Urgal to Ust'-Niman. Here up to 20 seams have been determined, but of these only nine, with a total thickness of 40 meters, are worth mining, and they lie up to 600 meters deep. The coal-bearing layers otherwise have in general a thickness of more than 1,000 meters. The quality of the coal varies and ranges in heating value (Yorek deposit) from 6,043 calories to 8,018 calories. Numerous tests and trials have shown that a large part of the deposit can be used as coal for coke; however, the high ash content occurring in many cases forces the use of special methods. The geological total supply is given at 60 billion tons, of which 45 billion belongs to the upper Jurassic and 15 billion to the Lower Cretaceous.

3: Thiel--167K-45 (no date) 1953 RRI Siberia RRI

Sketch Map of the Coal Deposits in the Amur Region:



- hard coal deposits
- hard coal deposits and where they come to the surface /Steinkohlenvorkommen mit Austritten/
- brown coal deposits

/141/

135.

More recent investigations have even estimated the possible total supply at 120 to 130 billion tons. (8) 135

8. Energeticheskie resursy SSSR /The Sources of Energy in the USSR/, 2 vols., (Moscow: Academy of Science, 1937 and 1938), Vol. I, p. 80.

3. Tyrma Basin. This coal basin is a continuation of the deposit on the upper Bureya and is separated from that deposit only by tectonic occurrences with subsequent erosion. The main deposit is on the Bureya. The coal-bearing layer has a thickness of approximately 400 meters and, in addition to various seams of little value, it contains two seams whose thickness varies locally between 1.5 meters and 5.0 meters. The quality of the coal is supposed to be inferior to that in the basin of the upper Bureya. Apart from this, however, it has industrial importance because of its nearness to the Amur railroad.

West of the Bureya, hard coal occurs only in small deposits, for example on the Dep River, 45 kilometers before it empties into the Zeya. The deposit has a supply of only 490,000 tons and is used for supplying the Zeya River ship transportation. An additional, large deposit on the upper Amur has only recently come to the foreground in interest. It stretches along the Amur, and appears in the valley basins of the Amur tributaries, the Urusha, the Kerak, the Burinda, and the Magdagachi with numerous appearances on the surface. Having a mean heating value of 5,064 calories, its quality is slight, but some seams in spots have the character of anthracite and semi-anthracite. Mining was begun in 1947 at Magdagachi.

Brown Coal Deposits

1. Lower Bureya. These are the largest brown coal deposits in the Amur region. They stretch from the lower course of the Bureya in the east to the /143/ Savitaya in the west between the Amur River and the Amur Railroad. They are of the Tertiary period (Miocene and Pliocene), and as a rule, they form only one seam with a thickness of 2 to 7 meters with a mean thickness of 6 meters. The brown coal is in part extracted in open workings. The most important mines are near Kivdinsk and in Raychikhinsk, whose productions before the war reached approximately 700,000 tons for the two mines together. After the war new installations with a production capacity of 250,000 tons

●/135 were created. An inadequacy lies in the fact that the brown coal is very damp in the earth, and, when exposed to the air, it disintegrates in parts into fine grains like sand. The total supply is given at 510 million tons, of which 245 million tons fall in category A-1.

2. Mukhen Deposit, in the basin of the Mukhen River, 130 kilometers northeast of Khabarovsk. Here two seams have been determined with a thickness of 1.6 meters and 3.2 meters; these seams lie only 7 to 10 meters under the surface. The quality is not outstanding and comes close to being a type of lignite.

3. Khungari-Deposit in the area around the middle course of the Khungari River, which empties into the Amur below the Mukhen. The Tertiary coal deposit was discovered only in the 1930's. It constitutes two seams, each 2 meters thick, whose coal has a heating value of 4,017 calories and 5,179 calories respectively.

4. Naloyevskoye Deposit, which also has been discovered only recently. The coal lies on the shore of the Tatar Strait, approximately 20 kilometers south of the mouth of the Amur.

Maritime Krai

The Maritime Krai is relatively better explored than the other regions in the Far East. Therefore, much more can be said about the coal deposits in this area. All told 69 hard coal deposits and 38 brown coal deposits are known to date. In terms of quality, all types of coal exists here, from anthracite to brown coal. Characteristic of this region is the variable stratification with many deposits extending over a large area while others are smashed into smaller individual deposits by tectonic occurrences. The majority of all deposits lie in synclines with stretches predominantly toward the northeast. The coal deposits can be grouped into three groups according to their geological age. The oldest stems from the Upper Triassic (Mongugay Series) and constitutes anthracite and semi-anthracite. The second group, which is of much greater importance, belongs to the Upper Jurassic (Nikansk Series) and to the Lower Cretaceous and contains hard coal primarily. The Tertiary brown coal is reckoned in the third group. However, the age does not always correspond to the quality, since the value of much coal has been changed by tectonic strains. Thus /144/ it comes about, for example, that the Tertiary brown coal of Tavrichanka is very close in quality to hard coal.

Within the coal-bearing Mongugay Series of the Upper Triassic,

three independent coal fields are prominent: the Maikhe-Pochikhe deposit, the Mongugay deposit, and the Razdolnaya deposit.

1. The Maikhe-Pochikhe deposit. This deposit lies between the Maikhe River, which flows toward the south into the Ussuri Bay, and the Pochikhe, a left tributary of the Suifun, and is north of the railroad line which runs from Ugol'naya on the Ussuri railroad to Suchan. Best known is the eastern part between the localities of Surazheyevka and Radchikhinsk. The coal-bearing layers here lie in an asymmetrical syncline which extends over an area of 30 square kilometers; these layers comprise an estimated supply of 300 million tons. Only a small part has been explored with the resulting discovery of five productive seams, with a total thickness of 5 to 6 meters. The heating value lies between 8,616 and 8,757 calories. The heavy interlarding /Durchschichtung/ with dead material and the high ash content, however, lower the quality. The western branch of the deposit directly adjoins on the north the Tertiary brown coal deposit of Artem and stretches from the little river Babalyanso to the Pochikhe. Here, too, the coal-bearing layers lie in a syncline, which here, however, is heavily distrubed. Control prospecting locally have shown three productive seams with a thickness of 1 to 3.3 meters. The heating value, which is 7,646 calories, is somewhat less than in the eastern part of the deposit, but on the other hand the ash content is not so great. Some difficulties for exploiting this deposit lie in the complicated tectonic structure. The total supply of the western part is estimated to be 300 to 400 million tons. Mining until now has still not taken place. However, the beginning of mining is foreseen for the near future.

2. The Mongugaya Deposit is in the southwestern part of the area between the coast of the Amur Bay and the Manchurian border, approximately opposite Vladivostok. It is divided into several individual deposits, which correspond approximately to the river basins of the Mongugaya, Amba, and Bira and which contain a total supply of 200 to 250 million tons. Of the eight seams, however, only three are industrially valuable; they have a thickness of 0.5 to 2.0 meters. The quality of the coal is the same as that of Surazheyevka and has the shortcoming that pure coal is found here, too, only in the small central part of the seam. Mining is not done and is also not foreseen.

3. The Razdolnaya Deposit begins at the Razdolnaya station on the Ussuri Railroad and extends toward the northeast as far as the Zuputnika River. In terms of the area covered it is the smallest of the three Triassic coal deposits. However, it is still very little -

/135 investigated. Natural outcroppings of coal have been determined in numerous places where productive seams up to 1 meter thick are visible but show a sharp fall /starkes Fallen/.

/145/ /Sketch Map of the Coal Deposits in the Vladivostok Area:/

Besides the three large coal deposits of the Upper Triassic mentioned above, supplies of the same age have been encountered in numerous places along the western foot of the Sikhote-Alin', especially also on the right tributaries of the Ussuri. The Boreal Sea which at the beginning of the Triassic period penetrated in a narrow arm from the north into the area of the present-day Ussuri-Khanka depression as far as the extreme south, slowly withdrew again to the north at the end of the Triassic period.(3) In the process the sediments of the

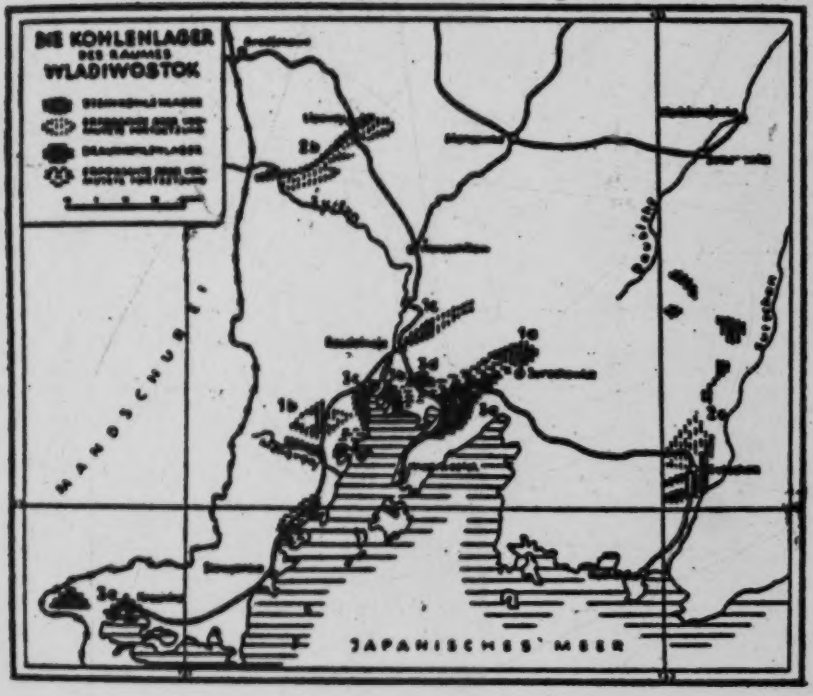
3. Atlas energeticheskikh resursov SSSR /Atlas of the Sources of Energy in the USSR/, Collected work under the editorship of A.V. Vinter, G.M. Krzhizhanovskii, and G.I. Lomov, 2 vols, (Moscow-Leningrad, 1934), p. 7.

Boreal Sea changed from marine deposits to lagoon ones to the continental coal-bearing Mongugaya series, to which the three above-described larger coal deposits belong. Since the deposits of the Upper Triassic extend along the western side of the Sikhote-Alin' in a broad zone, it can be assumed that coal supplies of the same age will also be found further in the north. This is also indicated by the coal findings already mentioned in the area of the right tributaries of the Ussuri; these findings to be sure were made only on geological route surveys.

/146/ The coal deposits of the Upper Jurassic and the Lower Cretaceous have a greater importance than those of the Upper Triassic. In the majority of cases they deliver an excellent fat coal suitable for making gas and coke. The most important and most valuable supplies are concentrated in two large basins: the Suchan Basin and the Suifun Basin.

4. The Suchan Deposit stretches in a syncline with a northeast direction /mit Nord-Ost-Streichen/, and the bulk of it extends on the right side of the Suchan River up to 40 kilometers before the mouth of the Suchan. With a length of 56 kilometers and a mean width of 25 kilometers, the deposit extends over an area of 280 square kilometers. The total supply exceeds one billion tons. Under an unproductive layer consisting of sandstone and conglomerate:

Sketch Map of the Coal Deposits in the Vladivostok Area:



hard coal deposits
explored or conjectured continuation
brown coal deposits
explored or conjectured continuation

The Coal Deposits according to their Geological Age:

Triassic: 1 a Maikhe Pochikhe deposit; 1b Mongugaya deposit; 1 c Razdolnaya deposit

Upper Jurassic--Lower Cretaceous: 2 a Coal deposit of Suchan; 2 b Suifun deposit.

Tertiary: 3 a Artem-Ugol'naya; 3 b Tavrichanka; 3 c Fedorovskiy; 3 d Ippolitovka; 3 e Kraskino.

/Konglomeraten/ and extending up to 1,500 meters on the axis of the syncline, lie three coal-bearing series, which are 300 meters, 150 to 250 meters, and 400 to 500 meters thick. The upper coal-bearing layer contains six seams with a thickness of 0.4 to 6 meters. Within the individual seams the thickness varies greatly; thus, for example, in the second seam from the top, the "Velikan," the thickness ranges from 0.7 to 6 meters. In the second series are more than eight seams, which in the mean are all more than one meter thick. In the third coal-bearing layer there are four additional productive seams, although their thickness and also their quality declines quickly as they get deeper. The coal deposit of Suchan was already discovered in 1888, and mining was already begun at the end of the last century, primarily in order to supply the Russian navy. As at Suchan, the center of the coal mine, the mining installations to date lie in the southeastern wing of the coal-bearing syncline. In 1933 nine shafts were working. Since then more have been added to these. In the last few years the mining has produced more than 500,000 tons. Suchan is connected with the Ussuri Railroad in Ugol'naya by an 180-kilometer long branch line. A second railroad leads from Suchan toward the south to the coast and ends at Nakhodka on the bay of the same name. The excellent quality of the Suchan coal assures the area a development rich in prospects, and, with increased production, coal for export is a possibility, especially export to Japan and China, which are not richly supplied with good coke coal.

5. The Suifun Coal Deposit, in terms of the area it covers, is the largest hard coal supply in the Ussuri country. It covers more than 3,000 square kilometers, and, approximately in the form of a large right angle, extends between the Manchurian border and the Ussuri Railroad. The middle Suifun flows across it on the diagonal. The northern border of the coal-bearing basin is formed by a long Paleozoic granite batholith, which extends under hilly country from Faddeyevka on the Manchurian border via Vladimirovka and Lipovtsy to the east. In the east the basin, in the form of a deep bay, crosses the Ussuri Railroad via Voroshilov /147/ and ends at the Rakovka River, a left tributary of the Suifun. The Yandsogou River can be considered as the conditional southern border, since south of this river the coal-bearing layers are covered over by a continuous basalt covering and the outcroppings of coal are no longer to be determined. The entire coal supply within the Ussuri country is only the eastern spur of a mighty coal deposit whose main part lies in Manchuria and there

•135 reaches as far as Kirin--on the Sungari. The diagonal of the Suifun divides the coal basin in Soviet Russian territory into two parts, a southwestern and a northeastern part, and the two parts are sharply differentiated from one another by the character of the relief and also by the degree of economic-cultural development. The southwestern part forms a mountain tableland country with the original basalt covering being divided by heavy erosion into numerous tableland-mountain-like elevations; the coal-bearing layers appear only between these elevations, primarily in the erosion valleys. Because of its remoteness and its slight connection with the transportation system, this area is very lightly populated. The northeastern, left-bank part of the Suifun basis presents an entirely different face in terms of its landscape. It is free of any basalt covering, its relief forms shallow waves, its soil is fertile, its agriculture cultivates predominantly technical plants, and it is thickly settled. In addition, this region is crossed by the Manchurian Railroad, and in the east also by the Ussuri Railroad; the two railroads meet in Voroshilov. Furthermore excellent loam and limestone are diffused in a large measure in this part, and accordingly the industrial opportunities are especially favorable. Tectonically the coal basin represents a broad, rather flat syncline, which stretches from west to east with the incline steeper in the north, while, on the other hand, it is flat in the south. The basin is filled by two series of Lower Cretaceous, of which, however, only the lower one is coal-bearing. More exact knowledge of the stratification is known only for individual areas, where mining is already underway. Thus at Konstantinovka on the Manchurian border, where coal has been extracted since 1888, there is a seam with a thickness of 1 to 2.5 meters, in addition to some unimportant seams. This seam corresponds to the same coal layer of Ilyichevka, Vladimirovka, and Lipovtsy, all three of which lie on the northern edge of the basin, but here the coal layer reaches a thickness of 3 meters and more. On the eastern edge of the basin where coal is mined in a shaft in Nadezhdinsk three to four kilometers east of Voroshilov, two seams, each 3.5 meters thick, are used; in places these two seams merge into a single coal layer. The total supply of the Suifun deposit is given at 4 billion tons. Since all the shafts and prospectings to date have penetrated only into the upper part of the coal-bearing layer and since geologically these correspond to the upper coal-bearing series of Suchan, still larger deposits are expected to be found /148/ at greater depths, and if this conjecture is confirmed, the total supply would be increased two to threefold.

The quality of the Suifun coal is described as excellent for liquifying coal, and its purity is particularly outstanding. The total amount produced by this mining district is still insignificant and reaches 200,000 to 300,000 tons a year. In this Konstantinovka stands in first place.

The Tertiary brown coal is represented in numerous basins. The most important deposit stretches along the railroad lines to Suchan and extends in a great width from the Ugol'naya branch station approximately 18 kilometers to the east. It covers an area of 180 kilometers and contains several layers with a total thickness of 12 meters. Artem lies in the center of this brown coal region. In coal extracted the Artem area exceeds by threefold the Suchan production of 1938. West of Artem the same deposit is also mined in Ugol'naya and Uglovoye. The total supply is given at 1.5 billion tons. In second place the brown coal deposit of Tavrichanka should be mentioned, which lies on the Rechnoy Peninsula in the northern part of the Amur Bay. The quality comes close to that of hard coal. Approximately 150,000 tons of coal are extracted annually in Tavrichanka, which is connected with the Ussuri Railroad by a 12-kilometer long line. Adjoining Tavrichanka directly on the west is another brown coal deposit, which has six productive seams with a total thickness of 8.20 meters. In the center of this deposit lies Fedorovskiy. Of still greater importance is the brown coal of Ossinovka. This deposit, comprising more than 20 million tons, lies 12 kilometers south of Ippolitovka station, 135 kilometers away from Vladivostok. It consists in the main of a single layer of brown coal, which is up to 19 meters thick and of which a significant portion can be mined in open works without difficulty. The brown coal deposit in the surroundings of the Pos'yet Bay in the extreme southwest is also worth mentioning. Mining also takes place in Kraskino.

Sakhalin

Salkhalin's coal deposits in general have been very little explored. However, the previous determinations justify great hopes. The coal supply lies in three great fields. Best known is the so-called western coal field, which, according to the results of research to date, probably also represents the main supply. It extends along the west coast, lying principally between this coast and the western mountain chain. The coal is of Tertiary age, but because of tectonic stresses it

•135 comes close to the quality of hard coal; indeed, according to individual reports, the coal in part is even supposed to be equal in value to the best type of European hard coal. Accordingly, the coal deposits of the Lower Miocene and of the Upper Oligocene, which /149/ the western coal fields consist of, are designated as hard coal in Russian publications and in terms of its quality the coal is described as gas and coke coal. The coal fields begin approximately 35 kilometers north of Aleksandrovsk, and are divided into more than ten rather large individual deposits, which in most cases lie on the wing of a syncline filled with Tertiary. The value of the individual deposits varies, and both the number of seams and their thickness fluctuates. Thus in the Machinskoye coal deposit, the most northerly, there are seven seams with a total thickness of only 5 meters, while eight productive seams with a total thickness of 20 to 25 meters lie in the Ust'-Agnevo deposit. The geological supply of the western coal fields is given at at least 2.5 billion tons. The mining of these fields began in part before 1931 in individual deposits, for example, in Mgachi, Starovladimirskoye, Arkoza, Makaryevskoye, Oktyabr'skoye, Medvezhinskoye, and other places. By 1933 the total production had already reached more than 250,000 tons a year. Since, however, at that time some deposits were given as a concession to Japan for exploitation, an estimate of 500,000 tons of coal mined at present is not too low. The center of the coal mining region is the already mentioned Aleksandrovsk.

The so-called central coal field should be named in second place; it extends in the depression between the two mountain ridges in the basins of the Tym' and Poronay rivers. Here, too, is Tertiary coal. Nothing is known of the size and supplies of these coal fields since they, too, were only discovered in very recent times. A long and heavily disturbed third coal field stretches in the western mountain range almost parallel to the coast. The coal-bearing layers of this coal field are formed from the Gilyak series of the Upper Cretaceous. This coal area, too, is to date known and investigated only in individual parts; however, the widely-scattered numerous outcroppings in the mountain range permit us to conclude that there is a significant coal supply. Nine productive seams with a total thickness of 10 to 12 meters have been determined in the basin of the Nay-Nay River. In terms of quality the coal here is designated fatty hard coal, but it does have a high ash content.

Considering the great diffusion and mighty development of the

Tertiary on the island, and that geological research is still slight in many cases, it is to be assumed that still other coal deposits will be discovered. Thus, for example, it has been determined that the western coal field continues on the coast toward the north; however, in the process--conditioned by tectonics--the character of the Tertiary coal changes and becomes looser, less valuable brown coal and lignite.

The coal deposits on southern Sakhalin will be discussed in detail in the discussion of the island in the second part of this work.

/150/ Kamchatka and the Northern Regions

Extensive brown coal deposits have very recently been discovered on the western coast of Kamchatka; these deposits stretch from the Sopochnaya River in a broad line over several hundred kilometers to the north of Palana. The coal-bearing layer apparently belongs to the Lower Oligocene. The entire Tertiary layer complex is laid in a fault stretching meridionally and is disturbed also in the same direction by breaks. In the upper part of the coal-bearing series productive seams have been found with a thickness of 1.7 to 2.75 meters. The brown coal is strongly bituminous. At Palana, for which which there is more information, eleven seams with a total thickness of 23 meters have been determined. As at Korff Bay these seams change in quality from lignite in the upper layers to better brown coal in the deeper deposits. There is still no mining done here, but mining can become of very great importance for coastal shipping and also for the local fishing industry.

An additional brown coal deposit has been discovered on the west coast of the inner Penzhina Bay. This deposit is supposed to be the same in age and quality as the deposit in west Kamchatka.

Of considerable economic importance even at present are two coal deposits on the coast of the Bering Sea, at Korff Bay and at the mouth of the Anadyr'. The deposits on Korff Bay stem from the Lower Miocene and consist of eleven seams worth mining, with a total thickness of 20 meters. The mean heating value reaches only 4,160 calories. The supplies are numbered at 100 million tons. The center of the mining is Ugol'naya. The brown coal at the mouth of the Anadyr' is divided into three deposits, of which the best known is the one on the little river, the Ugol'naya, which empties into the Anadyr' Bay from the left. This deposit on the Ugol'naya River has two seams which are 1.5 meters and 5.8 meters thick. Here, too, mining is being done

135 which is of greatest importance for supplying shipping. Korff Bay and also the mouth of the Anadyr' are, therefore, especially important bases for the Northern Sea Route.

Total Production. The amount of coal mined in the Buryat Mongol ASSR and in Chita Oblast cannot be given with certainty. The estimate given above of 3 million tons mined in 1950 is considered somewhat high. In the other Far Eastern regions mining is being pushed very hard. By evaluating all reports, it can be assumed with certainty that production has reached a total of 13 million tons. In this the mining in Korff Bay and in the Anadyr' area must be very insufficient, because press reports complain of a coal shortage in the entire area of the Okhotsk coast and in the extreme northeast, with the result that hundreds of thousands of tons had to be transported there from the southern coal districts. How far the Russians have succeeded in /151/ getting the Japanese coal mines in southern Sakhalin back into operation cannot be said. Before the war these mines delivered 2 million tons a year, of which 75 percent was used in Sakhalin itself and only 500,000 tons were exported to Japan.

Petroleum

The search for petroleum on the continent has thus far been in vain, although Tertiary deposits, which could above all awaken hopes, are also widely diffused here. However, these show themselves for the most part to be continental formations. Certain hopes are still placed on the Amur area. Petroleum deposits and supplies have to date only been found on the extreme edge of the Far East--on Sakhalin, Kamchatka, and further in the peripheral north, where the appearance of petroleum appears possible in the Anadyr' depression and parts of the Chukchi Peninsula because of their geological structure.

Sakhalin

The first reports of petroleum supplies on Sakhalin go back to 1880. Investigative drillings began already in 1892. Worthy of mention in this connection is the work of a German by the name of F. F. Kleis, who founded a German-Chinese company and who contributed significantly to the development of the oil area from 1898 to 1914. With the outbreak of the world war he was expelled, and the work was stopped. A Russian and an English company were also working

at the same time with him; however, the results in general were of slight economic importance. In 1920 the Japanese occupied the island. They recognized the value of the petroleum deposits and immediately began to exploit them. By 1923 already 1, 252 tons had been produced. After the withdrawal of the Japanese, a geological investigation of the island was conducted in 1925 in connection with the petroleum supplies, and at the same time the Soviet Union began the planned exploitation of the petroleum fields. 135

Natural outcroppings of the petroleum are widely diffused in the eastern coastal plain and extend in a zone from Okha in the north to Okuni in the south. In many places they represent mighty accumulations of asphalt or form tar-like deposits in the so-called asphalt lakes. The bulk of the surfacing is connected tectonically to the continuation of the eastern anticlinal fault of the East Sakhalin mountain range. Natural outcroppings are very rare on the western coastal plain and are known only in the most northerly part near Langry.

The bulk of the petroleum lies under the east coast. Here a total of six deposits can be differentiated; they follow one another from Okha in the north along the coast to approximately the latitude of Aleksandrovsk. The oldest and best known of the deposits is that of Okha. It lies on the western shore /152/ of the Urkt Bay and extends to the south as far as the Gilyako-Bunan River. Here up to sixteen oil-bearing horizons have been determined, of which, however only four in the main deliver oil. The two uppermost horizons are already cut into by erosion and have no economic importance. The third, which lies right under the surface of the earth, has caused the formation of the "Great Asphalt Lake" in a natural outcropping on the Beryakan River; the "Great Asphalt Lake" covers an area of 3 hectares, and the pure asphalt mass has a thickness of 0.5 to 1.5 meters. The upper layer of this mass is hard, but in the summer heat it softens up so much that one cannot enter the "lake." The thickness and also the oil yield of the individual horizons varies from place to place. Only the thirteenth horizon has sufficient gas pressure for a gusher to produce for a short time a quantity of 500 tons per drilling and per day. In addition to oil, natural gas is also extracted in Okha, with the quantity produced per drilling and per day fluctuating between 5 cubic meters and 2, 500 cubic meters. The productive drillings in Okha extend down as much as 760 meters.

Approximately 10 kilometers south of Okha lies the center of

935 the next oil field, that of Ekhabi. It stretches between the Gilyako-Bunan and the Khutska Rivers. In the tectonics of the deposit the anticlinal structure of Okha is repeated, but here the deposit is divided into three deposits by cross breaks, which follow one another from north to south. In the last years before World War II the northern part of the oil field of Ekhabi was opened up, and thereby it was determined that Ekhabi is a far richer and more productive field than Okha. The corresponding horizons often produce many times as much as those of Okha. The increase in production is remarkable: it grew from 62,763 tons in 1937 to 165,900 tons in 1938. It is hoped that the extraction in Ekhabi can still be increased and can be maintained for many years. The depth of the drilling in 1938 lay between 650 and 700 meters.

South of the Kydylanya River, which empties into Pil'tunskiy Bay, there begins another oil area, which reaches as far as Chayvo Bay and which usually is grouped under the name Kydylanya-Chayvo-Oil-District. The most important fields from north to south are as follows: Paromay, Pil'tun, Nutovo, Garomay, and Baotasyn. In this oil district the oil-bearing horizons in many cases, lie deeper than those in the Okha and Ekhabi area because of dislocations; but the horizons at the Kydylanya-Chayvo Oil District are connected to the same anticline: only the tectonics become more complicated toward the south. In the southern part there are even two oil-bearing anticlines. In the vicinity of Nutovo there are several asphalt lakes, of which the largest contains 11,000 tons of asphalt. South of the mouth of the Tym' begins the Nyysko-Nabilskiy Oil Region, which got its name from the bays lying on the coast. Here, too, several oil fields have been determined, among which the Katangli field stands in first place. Some exploratory drillings in this field resulted in such a /153/ spurt of oil that extraction was begun in 1937. Four other fields are of industrial importance. The deposits here are connected with two anticlines, with the oil-bearing horizons being the same as those at Okha and Ekhabi.

On the western shore of Sakhalin in the extreme north two oil fields were found, and exploitation here too was begun immediately, because of their favorable location in terms of transportation. The first field, which bears the name Langry, lies 20 kilometers above the Langry River, and the second field lies approximately 15 kilometers to the north on Lake Sladkoye. Both fields belong together tectonically, and both have the same oil-bearing horizons. Here, too, the flanks

of the anticlines are the bearers of the oil. Langry lies scarcely 100 kilometers away from Nikolayevsk on the Amur, and it is understandable that production in both fields is therefore being strongly pushed. 135

In contrast to northern Sakhalin, the southern part of Sakhalin, which was Japanese until 1945, appears to have no oil deposits worth mentioning. Although the Japanese employed the most modern research methods here, they only succeeded in finding traces of oil or small supplies, which did not seem worth while to exploit.

Kamchatka and the Northern Regions

Natural outcroppings of petroleum have been known on the east coast of Kamchatka Peninsula since 1913. Explorations, however, have only led to the finding of one oil field. It lies in the northern part of Kronotskiy Gulf, approximately 60 kilometers from the coast in the valley of the little Bogachevka River, from which the oil field got its name. The Tertiary deposits (Oligocene-Miocene) in the Bogachevka area are, however, covered over by a Quarternary lava layer which is 500 to 600 meters thick; the Tertiary deposits come to the surface only at the exit of the valley, where oil-bearing layers are encountered, but only slight quantities of oil and gas are produced by these layers. Exploratory drillings, which have been made within the lava fields by making use of fissures, have indeed brought indications of extensive deposits, but extraction is made extraordinarily difficult and in places impossible by the thick masses of lava and tuff lying over the deposits.

In 1936 oil was found also on the western side of Kamchatka in the area around the village Tigil'. The deposit lies in an area which is more than 20 kilometers wide and 80 kilometers long and which extends along the coast of the Sea of Okhotsk. The village of Tigil' lies in the center. The oil supplies are connected to flat anticlines. The oil-bearing layers are of the Miocene era and have a total thickness of 500 to 1500 meters. The oil is found in sand horizons which are interrupted by dark gray loam, in which /154/ brown coal seams are deposited. These brown coal seams in places attain a thickness of 0.5 to 1 meter.

Additional oil supplies are found in the river basin of the Penzhina and in the hinterland of Korff Bay.

Importance and Exploitation

The importance of oil extraction for the Far Eastern regions of ooo

000 as being too high.

Peat Supply

•135 The formation of swamps and the formation of peat probably stand in close connection with one another, but the formation of swamps does not always lead to the formation of peat beds. This is in large measure the case in Transbaykal. The irregular water conduction of the rivers brings with it floods and heavy soaking of the ground near the rivers, and accordingly in the valley areas this is often accompanied by swamps. However, only occasionally are peat beds of a larger size found in these swampy areas, and thus Transbaykal has at its disposal only slight peat deposits. Conditions in the other areas are different. The Atlas of Sources of Energy in the USSR gives some figures on this; but these are only general figures, designed to orient; and, as is often emphasized, they should not be regarded as exact data. They are to be used here because they contribute to a clear representation of the land and its conditions. Investigations of individual regions have lead to the general knowledge that of the entire mainland in the Far Eastern region (not including Kamchatka and Sakhalin) around 15 percent is swampy: i.e., in absolute figures, there are approximately 360,000 square kilometers of swamp area. The reason for this extraordinarily high percentage is, in the first place, to be found in the existence of the permafrost, and, in the second place, it goes back also to the extensive tundras in the northeast. Furthermore, research has shown that of the swampy areas, around 10 percent consists of peat swamps which contain peat deposits of economic value. Since from tests and experience in the Soviet Union one reckons on a mean thickness of the peat layer of 1.5 meters, of which, however, only approximately two-thirds can be extracted, one finds that there are extraordinarily large peat supplies in the Far Eastern regions. But these figures should not be considered further, since their value was only calculated theoretically and their realization still lies in the distant future. More important are the peat deposits in the areas already opened, for these have an economic use which is tangible.

In the Aumr and Ussuri region extensive peat deposits are known. They extend primarily in the valley areas around the rivers. In so far as they lie within the food areas, they are economically of slight value because of their great dampness and their high ash content. It is different with the peat deposits which lie on old river terraces or also often

on the watersheds between the tributaries. These deposits are distinguished by their great thickness and their slight water and ash content. The peat deposits which have formed in the foreland of the mountain ranges have the same character. According to Soviet figures, these types of peat in an absolutely dry condition have a heating value of 4,600 to 5,100 calories per kilogram. In individual regions under morphologically caused conditions true peat massifs have developed covering a large area. The Amur depression below and above Khabarovsk is especially rich in peat deposits of this type. Approximately 80 kilometers below the city, between the right tributaries of the Amur, the Nemptu and the Mukhen, lies an extensive peat massif, which, in the discussions of new plans for this area, is always named in first rank as the basis for energy here, and which for this reason should be characterized here briefly as an example. The peat deposit is divided into five fields with the following dimensions:

Name of the Deposit	Area in hectares	Supply in Millions of Cubic Meters	Possible Capacity of the Power Plants in kilowatts
Mukhenskoye	8,090	61.8	22,500
Nel' tinskoye	1,739	27.5	10,000
Industializatsiya	1,546	17.8	6,500
Amkhalginskoye	15,000	180.0	65,000
Yuskovskoye	10,000	97.5	34,700
	36,375	384.6	138,700

Soviet planners have reckoned that the power plants listed in the above table could in around 25 years reach the designated output by putting in 5,000 hours of work a year. These figures are introduced here only in order to show what economic importance the great peat deposits can have.

There are additional important peat deposits in the area of the lower Amur, in Birobidzhan, then especially also in the area between the Sikhote-Alin' and the Ussuri. The peat deposits in the other regions are still little investigated and are still not included in any plans.

If the large peat deposits are still not being used at present, they nevertheless already form the objects of far-sighted planning, and the /157/ time may come when peat power stations will arise from

these peat deposits, such as we see already in action today in the European part of the Soviet Union.

The Iron Ore Supply and the State of Its Exploitation

The iron ore supply of Transbaykal and the Far Eastern region does not constitute a very important percentage in terms of area in comparison with the other parts of the Soviet Union. Transbaykal provides 5 percent of the total area and, according to the state of exploration of January 1, 1938, it conceals in its soil only around 265 million tons of iron ore, not counting iron quarzite. This constitutes only 2.2 percent of the total supply of the USSR. With the Far Eastern regions the difference is somewhat greater; for in terms of area these regions provide 12.5 percent of the total but only 1.6 percent of the supply, which in absolute figures is 187 million tons. In this, however, it is necessary to point out the areas still not completely investigated; the percentage of these in the Far Eastern regions is still especially great, and accordingly there is certainly the possibility of finding new ore deposits.

In the following sections only the most important deposits are to be treated in so far as they are known to date.

Transbaykal

1. The iron ore deposits of Balyaginskoye are undoubtedly the most extensively known and also developed. They form the basis of the foundries of Petrovsk-Zabaykal'skiy, and lie 22 kilometers northwest of these foundries and are connected to them by a railroad line. The ore appears as magnetite in the form of sticks /Stöcken/ and lenses /Linsen/. The iron content is 45.5 percent to 47.2 percent, while the percentage of phosphorus is 0.042 percent and that of sulphur is 0.90 percent. Until recently the mining was still done in open works, but today already it is done in underground works. The ore is broken into pieces on the spot and is enriched by smelting. The supplies are given in the individual categories as follows: A is 2,851,000 tons, B is 288,000 tons, and C is 308,000 tons. The amount of iron ore mined amounted to 113,000 tons annually at the end of the second Five Year Plan. Since because of the completion /of a building/ the capacity of the iron foundry in Petrovsk-Zabaykal'skiy has in the interval been increased to 150,000 tons of crude iron, a mining of from 300,000 tons to 350,000 tons of ore a year can be assumed, and accordingly with

the supplies given above it can be reckoned that the mines will soon be exhausted of ore and the opening of other ore deposits will begin.

2. The Balbagarskoye iron ore deposit lies in the Kurba Rayon in the valley of the Kurba River, which comes from the northeast and empties into the Uda approximately 75 kilometers above Ulan-Ude. The deposit begins approximately 60 kilometers from Onokhoy, the next railroad station, and is divided into numerous scattered, individual deposits, which consist of a conglomerate of hematite and /158/ quartz. The total supply of A plus B is 2.4 million tons and of C is 81.7 million tons. Nothing is known about the iron content, but an enrichment on the spot is regarded as necessary.

3. In the Buryat-Mongol ASSR some deposits of iron quarzite have been found, which, according to estimates, should make a total supply of 120 million tons. Of this the largest deposit, that of Mudgor Gorkhonsk, alone has a supply of 96 million tons. Iron ore deposits of secondary importance have also been determined at Mysovsk /now: Babushkin/ in the vicinity of the shores of Lake Baykal.

4. In eastern Transbaykal the most important iron ore deposits are concentrated in the area around Nerchinskiy Zavod. Here lies the often-mentioned Zheleznyy Kriazh, the "Iron Mountain Range," an important iron ore deposit consisting of magnetite. This deposit stretches over 12 kilometers and is supposed to contain a total supply of A to C iron amounting to 112 million tons. The iron content ranges between 40 percent and 60 percent. The ores contain sulphur and arsenic. Forty kilometers from Nerchinskiy Zavod, in the vicinity of the Argun, lies the iron ore deposit of Berezovskoye, which consists of limonites and which has a total supply of A to C ores amounting to 75 million tons. In the same area, whose waters drain into the Argun, additional iron ore supplies have been determined, those of Yakovlevskoye /now: Privolzhsk/, Bystrinskoye, and Beklemishevskoye. According to superficial estimates, the total supply of iron ore in East Transbaykal is assumed to be some hundreds of millions of tons. The remoteness of these deposits, especially the lack of coal which can be made into coke--the next coal district, whose coal, furthermore, can only in part be made into coke, is Bukachacha--makes it appear scarcely possible that the east Baykal iron ore deposits will be used in the near future.

Amur Area

1. The Bureya Mountain Range contains the largest iron ore

•135 deposit in the Far Eastern region. In a zone 100 kilometers long, this deposit extends from the Amur to the northeast and lies for the most part in the Jewish Autonomous region. All told ten supplies have been determined, which can be grouped into four groups. The most northerly of these, the Botomskoye iron ore deposit reaches as far as Kimkan on the Amur Railroad. The type of ore varies: in part it comes close to hematite. The iron content is the greatest in the north where it has a mean of 48 percent, and it decreased in the direction of the Amur, where it fluctuates between 34 percent and 43 percent. The total supply of A to C ores is given at 59 million tons. An older figure for the total supply, including the ore in category C_2, was 500 million tons, but this must undoubtedly be greatly adjusted because of more recent determinations; for, according to the research as of January 1, 1938, the total iron ore supply in the Far Eastern region (Krai Khabarovsk and the Maritime Krai) is only 187 million tons.

/159/ 2. At Nikolayevsk on the Amur, lying in the vicinity of the city, are iron ore deposits whose ore has the character of limonite and has an iron content of 26 percent to 45 percent. The supply of A plus B is given at 14.2 million tons, to which 9.5 million tons of category C ore can be added; thus the total supply is 23.7 million tons.

The iron ore deposit of Nikolayevsk is supposed to supply the iron foundries of the combinat "Amur Steel" in Komsomol'sk. Formerly there was a steel plant and a rolling mill there. Since the capacity of the blast furnace envisaged there is planned to be approximately 500,000 tons of crude iron, Nikolayevsk's supplying of this installation will, from the long range point of view, soon lead to difficulties, and accordingly the deposits in the Bureya Mountain Range must in the foreseeable future be drawn into this. There are no further reports on the iron plant originally planned to be built in the vicinity of Kimkan and to use the ore from the Bureya Mountain Range; this plant was to be supplied with Bureya coal from the Tyrma Rayon. But this project must probably still not have gotten beyond the planning stage.

Maritime Krai

1. The magnetite of the Ol'ga group on the coast of the Sea of Japan constitutes the largest iron ore deposit. This magnetite as a rule appears in contact-metamorphic deposits at the points of

contact with lime and granite. This ore is divided into various individual deposits, of which the following three are the most important: Belaya Gora (1,150,000 tons), Magnitny Mys (143,000 tons), and Mramorny' Mys (82,000 tons). The ore of the Belaya Gora deposit has an iron content of 50.7 percent to 58.9 percent and is especially valuable because of its manganese content of up to 2 percent. Additional deposits are on Anna Bay. The general reserves of the Ol'ga Group, including the ore in category C_2, are numbered at 29 million tons.

2. The iron ore deposit of Sudzukhete, in the valley of the Sudzukhe River, lies at a distance of 43 kilometers east of the Suchan coal district. The type of ore varies greatly and ranges from magnetite to brown hematite of the contact-metamorphic type. The iron content ranges between 34 percent and 61 percent. Nickel is also mixed in in places. According to superficial estimates, the supply is given at 1,150,000 tons.

3. At Pos'yet Bay, directly on the coast of the Sea of Japan, 50 kilometers away from Vladivostok, lies another deposit, whose supply, however, is not very significant. It consists of magnetite sand with an iron content of 31 percent to 63 percent and has a total supply of 1.3 million tons.

4. The iron ore of Sergiyevskoye, which lies 7.5 kilometers from the Talovka station on the Manchurian branch of the Ussuri Railroad, is just as favorable from the point of view of transportation as is the Pos'yet deposit. At Sergiyevskoye is magnetite with an iron content of 34 percent to 61 percent and manganese amounting to 0.61 percent to 1.86 percent. The supply, however, amounts to only 280,000 tons of ore in categories A to C.

/160/ Numerous other supplies are known in addition to the above-mentioned iron ores, but these can scarcely be used in the foreseeable future. Up to 1939 mining of iron ore took place only in the deposits at Ol'ga Bay and Sergiyevskoye. Nothing is known of the present state of exploitation, although the thought is suggested that the iron ores lying near the coast may be used in conjuction with the Sakhalin coal which can be made into coke.

Non-Ferrous Metal

Two areas are especially prominent in terms of their supply of non-ferrous metals. They are southeastern Transbaykal and the Maritime Krai. Zinc and lead with the usual admixtures stand in the

135 foreground in both areas, although in the number of types of metal Transbaykal exceeds the Maritime Krai; for in Transbaykal there is also tin, wolfram, molybdenum, lithium, and others. Copper, on the other hand, is either entirely lacking or it appears in supplies scarcely worth mentioning.

Zinc and Lead Supplies

In terms both of supplies and of production of these two metals Transbaykal and the Maritime Krai have an important position within the Soviet Union. According to Balsak, Chita Oblast and the Maritime Krai supplied the following percentages of the total supply and the total production of the Soviet Union in 1937:

	Zinc		Lead	
	Percentage of		Percentage of	
	the total supply	the extraction of zinc ore	the total supply	the extraction of lead
Chita Oblast	7.00	--	10.20	--
Maritime Krai	4.41	11.5	5,54	12.5
Total	11.41	11.5	15.74	12.5

Transbaykal

In southeastern Transbaykal the non-ferrous metals are concentrated in the triangle between the Shilka, the Argun, and the branch of the Transbaykal Railroad leading toward Manchuria. Here, too, are zinc and lead supplies, which appear in the typical mixed ores with the zinc and lead content ranging in the mean between 10 percent and 15 percent; these ores often contain up to 1 percent antimony and between 0.1 percent and 0.2 percent tin. Copper appears only rarely, and then it constitutes only an insignificant percentage of the metals in the ore, while the arsenic content is often larger.

The total number of zinc and lead occurrences is given at 550, of which, however, only 34 have an importance realizable /161/ economically, i.e., industrially. These occurrences can be grouped into five mining districts according to their geographical position; in these districts are old works already established in the Czarist era.

1. Rayon Aleksandrovskiy Zavod. This comprises five deposits, of which that of Akatuyevskoye is the most important. The ore here

appears in extensive veins. The content of lead (2.85 percent) and of zinc (1.88 percent) is slight, but the silver content, whose mean is 275 grams per ton, made use of this ore feasible economically in the past. The total supply in the rayon is in 1,000 tons:

Category	Ore	Zinc	Lead
A_2	71.3	1.8	1.8
B	270.8	7.0	8.5
C_1	258.6	6.7	7.2
Together	600.7	15.5	17.5
C_2	292.5	8.0	10.5

2. Byrkinskiy Rayon. Like the above mentioned rayon, this lies in the south, approximately east of Borzya, and it comprises five deposits. The most important of these lies at Savinskoye and was exploited by the mine of the same name. The ore here constitutes a stratum-type formation, which comes to the surface in a width of 600 meters and which has a thickness of 15 to 20 meters. The content of lead (4 to 6 percent) and of zinc (4 to 7 percent) is not very important, but extraction is very much facilitated by the favorable stratification. The total supply of the rayon is in 1,000 tons:

Category	Ore	Zinc	Lead
A_2	1,600.0	42.2	27.4
B	609.9	28.4	23.0
C_1	3,530.0	166.8	73.5
Total	5,739.8	240.4	123.9
C_2	458.8	18.7	13.5

3. Rayon Gazimurskiy Zavod. This comprises only two deposits with insignificant supplies. In the Tayninskoye deposit the ore is connected in veins, which appear in dolomite lime. Earlier these deposits supplied the Gazimurskiy plant. The total supply in 1,000 tons is:

Category	Ore	Zinc	Lead
C_1	40.0	4.0	2.0
C_2	180.0	17.6	9.2

4. Rayon Nerchinskiy Zavod. Here twenty deposits press together in a narrow area along the Argun to the north and south of the old,

135 well-known works. /162/ These deposits are in part exploited by the Nerchinsk Works and are therefore the best known. The most important deposits are those of Mikhaylovskoye and Kadainskoye. In the first of these the ore forms stratum-like veins deposited in limestone; in the Kadainskoye deposit, on the other hand, the ore appears also in extensive beds. In addition to zinc and lead, cinnabar is also extracted in Nerchinskiy Zavod. The total supply of the rayon in 1,000 tons is as follows:

Category	Ore	Zinc	Lead
A_2	548.0	84.6	37.0
B	426.5	43.8	20.8
C_1	899.1	60.8	41.1
Total	1,837.6	189.2	98.9
C_2	2,655.2	205.0	134.8

5. Ustkariyskiy Rayon. This comprises only two deposits, Yekaterininskoye and Preobrazhenskoye, in which only oxidized ores are mined and which are processed in the Shilkinskiy Zavod. The supply contains only ores of category C_2 and amounts in 1,000 tons to: ores 1,050.0; zinc, 34.5; and lead 23.5.

After the Bolshevist revolution work in almost all the installations was stopped because it didn't pay. In the last few years a large zinc-lead combination has been erected in Nerchinskiy Zavod. This combination depends on ore deliveries from thirteen mines, which are grouped into three bases. Nothing is known about the production or its size.

Maritime Krai

The zinc and lead occurrences here are limited to a narrow area extending approximately 150 kilometers along the coast of the Sea of Japan, from the point where the Pkhussun empties into the sea in the south to the river area of the Tetyukhe in the north. All told more than 50 occurrences have been determined, of which, however, only fourteen justify economic exploitation. The most important deposits are concentrated in three groups, of which the most northerly lies in the river area of the Tetyukhe, the central one lies between Vladimir Bay and Ol'ga Bay, and the most southerly lies in the area around the mouth of the Pkhussun. The Tetyukhe group is of outstanding importance, having more than 90 percent of the total supply

in the Maritime Krai. These are contact-metamorphic deposits having contact with quartz porphyry and lime in the form of great beds and lenses /Linsen/, which appear both in the main valley of the Tetyukhe and also in the neighboring valleys. The content of zinc and lead in the deposits in the Maritime Krai is as a rule higher than in the deposits in Transbaykal, and in addition silver generally appears in the Maritime Krai too. In this connection attention should also be paid to the deposits on the Great and the /163/ Lesser Sinancha in Terney Rayon, approximately 35 kilometers north of the mouth of the Tetyukhe. Even though the total supply here is not very great, this deposit is distinguished by its very high values; for it contains 23.5 percent zinc, 15.1 percent lead, and 462 grams of siver per ton of ore, while the silver content in the Tetyukhe deposits as a rule does not exceed 280 grams per ton. The total supply of the Maritime Krai is as follows in 1000 tons:

Category	Ore	Zinc	Lead
A_2	804.4	79.1	63.1
B	2,121.6	220.5	99.7
C_1	1,436.4	115.8	47.6
Total	4,362.7	415.5	210.4
C_2	1,974.9	114.8	73.2

The Tetyukhe deposits were already discovered by the Chinese in the forties of the last century. From 1911 to 1919 the Vladivostok wholesale merchant, Briner, worked here, who in 1915 created a concentration installation. In 1924 the mine went as a concession to the British "Tetyukhe Mining Corporation." In 1928-29 there were 55,000 tons of ore mined from here, and from this ore 14,000 tons of zinc concentrate and 6,000 tons of lead concentrate were extracted through flotation. In the first half of 1930, 74,000 tons of ore were mined, to produce 14,000 tons of concentrate. After the installations were taken over by the Soviet regime, two additional mines (Sovetskiy Rudnik No. 1 and 2) were established in the vicinity of the old mine. The amount of ore mined can be reckoned at 85,600 tons for 1937 and at 108,100 tons for 1938. There are no data whatsoever on the further development of these installations.

The concentrates or metals extracted are transported to the harbor installations at the mouth of the Tetyukhe with the help of a 35-kilometer long narrow-gauge railroad line. From the south of the Tetyukhe these concentrates and metals are carried away by the sea route.

Other Resources from the Ground

•135 Copper. Eighteen occurrences are known in the Maritime Krai, but of these only two are worthy of mention, those in the area of Plastun Bay and on the Yaudsukhe emptying into the Dzhigit Bay. The copper content of the ore tests ranges between 5 percent and 8 percent, but as a general mean it is only 1.5 percent, and accordingly economic exploitation appears scarcely possible. The results of research on the Chukchi Peninsula awakened great hopes of copper and other non-ferrous metals, for copper ore has to date been found in five places on this peninsula. All figures indicate a considerable wealth on the Chukchi Peninsula, but nothing has been made known about the type of ore occurrences and their supplies. (See sketch map on p. 164)

/164/ / Sketch Map of the Copper Occurrences on the Chukchi Peninsula/

Tin. Up to the beginning of the second Five Year Plan (1933) Chita Oblast was the sole tin-producing area in the Soviet Union, and even now this region remains decisive in supplying the Soviet economy with this valuable metal. The most important deposits are in the river area of the Onon in southeastern Transbaykal, where four independent deposits have been determined. These deposits extend over an extensive area. The tin content ranges between 0.17 percent and 3.78 percent; the mean, however, it only 0.6 percent to 1.0 percent. The tin is extracted in the works at Khapcheranga and Sherlovogorsk and in the Onon Mine, not far from the Olovyannaya railroad station. A new mine has been established at the foot of the Sokhondo. In production the works at Khapcheranga stands in first place; in this it is aided by the fact that coal lies in the vicinity, which is mined for running the plant. In the Maritime Krai tin is found in the region of the Bol'shaya Sinancha, which has already been mentioned for its zinc and lead ores. At the end of the thirties mining was begun here.

Wolfram is found in the Buryat Mongol ASSR along with molybdenum in the river area of the upper Dzhida, where there is a great works with its center in Gorodok. The plants are equipped with a dressing installation and with conveying railways and suspension railways. The work is favored by the existence of coal, which is extracted not far from the plants. The wolfram deposits of Dzhida are regarded as the largest in the Soviet Union. In Chita Oblast wolfram is furnished by the deposits at Belukha and Bukuka, which are east of the Olovyannaya railroad station. Additional deposits have been found

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Sketch Map of the Copper Occurrences on the Chukchi Peninsula

in the valley of the Chikoy, but these have still not been opened up.

Molybdenum is extracted in Gutay on the Chikoy River in the Buryat Mongol ASSR. Occurrences of molybdenum also appear in the /165/ Amur region and in the Maritime Krai. Only a deposit on the upper Bureya has proved to be industrially useful to date. A works for extracting molybdenum and antimony has been erected in the last few years where the Bureya's right tributary, the Umalta, empties into the upper Bureya. The Bureya coal lying in the same area facilitates the work.

Fluorspar is mined in southeastern Transbaykal in six mines. The largest of these are the mine of Kalenguy, in the vicinity of the Khada-Bulak station, and that of Solonechnoye in the Argun River area. Up to 1937 Transbaykal provided 85 percent of all the fluorspar in the Soviet Union. The supply of feldspar is given at more than 1.2 million tons.

Bauxite. A significant deposit of bauxite was discovered south of Lake Baykal at the locality of Okinsk. In 1947 mining was begun, and at the same time an aluminum plant was erected in Okinsk. Another large bauxite deposit has been determined in the Eastern Sayan at Sagakhani-Eshen.

Among the other mineral resources of Transbaykal the deposits of lithium should also be mentioned. According to Soviet figures these should be reckoned among the most important in the world. Various deposits of natural soda should also be mentioned. Furthermore, there are reports of occurrences of asbestos and graphite. There are reports of uranium findings only from the extreme southwest of Transbaykal.

Only the most important minerals could be listed above, and at that they could only be described in so far as they represented industrially valuable deposits or were already being exploited. Striking in this connection is the inadequate connection with the transportation network, especially with the railroads. For even those production places so emphasized in Soviet literature for their economic importance--such as these on the upper Dzhida or Khapcheranga and many others--have no railroad connection to the rest of the transportation network, but rather as a rule are connected only by finished land routes, which, to be sure, can be traveled by trucks the whole year through. Herein lies a restricting factor, which is effective in numerous mining places and which does not allow these places to come to their full development despite the generosity of their installations and plans.

Gold

Without a doubt it can certainly be assumed today that within

135 the gold economy of the earth the Soviet Union can claim for itself one of the first places among the producing countries. From the most varying announcements and other sources it can be concluded that the Soviet Union is striving with all its force and all its energy to expand its gold mining without considering cost problems. However, the results of the gold extraction /166/ has been kept as a strict state secret for a number of years. Absolute silence is also kept on the share of the individual regions in the production, and accordingly exact figures cannot be expected on this subject. But it remains certain that the regions treated in this book continue to include in themselves the most productive gold areas in the USSR, even though the Soviet press occasionally reports the development of new gold fields in other regions. As the best example, the Kolyma area should be pointed out here: it was opened up from Magadan on the Sea of Okhotsk out and has brought the Soviet Far East again into the foreground as a supplier of gold.

In the following description all the gold production areas are to be treated in a clear summary indicating how they have been presented in publications of the Soviet Union both before and during the last war and how they are directed and taken care of by state administrative agencies up to this time. It is scarcely to be assumed that they have been abandoned in the time which has passed since then. In some of the areas newer sources are also used.

In the Buryat Mongol USSR /sic/ the Vitim Plateau is still a productive gold area, which for a long time has belonged to the primary productive areas of Siberia. From the gold streams the gold is extracted with the help of modern dredges /Draggen/ and hydraulic machines. The center of this gold area is Tsipikan, which is connected with Chita by an airline, which is flown regularly. This advances the importance of this area, and furthermore makes it possible that the mining here is directed and controlled by five gold mining administrative agencies.

In East Transbaykal the gold is extracted in numerous places which are, however, more scattered. The gold fields here have been known since the end of the eighteenth century and for the most part they have already become unproductive. Only the remote river valleys are still of significance; for example, the area around the upper course of the Tura (a tributary of the Ingoda) and of the Ilya (a tributary of the Onon), the valley areas of the upper Chita and Uldurga, and, to a lesser extent, some tributaries of the Argun. Accordingly they have moved on to exploiting gold, which has been discovered in the valleys

of the Ingoda, Shilka, and the Chikoy. For this, modern gold ore works have been founded. The most important ones lie in Darasun, approximately 75 kilometers northwest of Nerchinsk, and in Baley in the valley of the Unda, approximately 40 kilometers south of Nerchinsk. In both of these arsenic and other metals are extracted at the same time. 135

The Amur gold fields should be named in third place. They extend over an extraordinarily large area and for this reason are divided into three parts: the Amur-Zeya area, the Selemdzha area, and the Bureya Mountain range.

/167/ The Amur-Zeya area comprises all the gold fields in the sphere of the rivers flowing into the upper Amur, including the Zeya. Some districts are especially prominent here, for example one to the north of the Mogocha station where the valleys of the northern rivers flowing into the Amazar conceal in themselves productive gold streams. Also subordinate to this administrative district are the neighboring gold streams of the rivers flowing toward the north to the Tungir. A second district lies to the north of the Skovorodino station. Here primarily the gold streams of the area around the upper course of the Urusha, of the Oldoy, and of the Urkan, which flows into the Zeya, are processed, in so far as they lie north of the Amur railroad. The areas around the lower courses of the numerous Amur tributaries between the railroad line and the Amur River have already become unproductive since gold washing had already begun in these valleys in 1867. Judging from the number of gold mining administrative agencies--before the war there were four--this district in the Skovorodino area must be very productive. To this district there also belongs the area around the upper course of the Nyukzha, which flows toward the north to the Olekma. While only gold streams are exploited in the above-mentioned areas, in the Zeya district mine gold is represented in rich measure in addition to gold streams. This district encompasses the entire depression between the Stanovoy in the north and the Tukuringra Mountain Range in the south. A base is formed in the eastern part of the southern slope of the Stanovoy in the area of the right tributaries of the Zeya: Sugdzharikan, Bomnak, and Tok. The administrative center here is Mikhaylo-Semenovskiy. Also equally rich in gold is the western part of the depression in the sphere of the right tributaries of the Zeya, the Ushuley, Bryanta, Unakha, and along the entire course of the Gilyuy. Two administrative centers here serve as executive offices for the plants. In general only gold streams are exploited, but in many places here they move on to working the gold-bearing sands lying under the surface of the earth; these sands are brought to the surface in mining-type

135 processes . In addition mine gold also occurs in this region, especially in the Gilyuy area where a mountain especially rich in gold veins has the name "Gold Mountain." However, there are no reports that mine gold is being mined on a large scale here, and, furthermore, these regions are still too little opened up in terms of transportation.

The Selemdzha gold area extends over only a slight area and comprises in the main the gold streams of the tributaries coming from the Dzhagdy Mountain Range to the upper course of the Selemdzha. These tributaries are also only rich in gold in the area near their sources, but, on the other hand, in the drainage area of these tributaries they are rich in primary deposits, which are exploited here on a rather large scale, but mostly with very primitive methods. The administrative center is Karaurak, a second center lies further up in the valley of the Khargy, a left tributary of the Selemdzha.

The gold deposits of the Bureya Mountain Range are insignificant and are remote, lying in the area around the source of the Niman, a tributary of the upper Bureya. The /168/ gold district is subordinate to only one administrative agency, which is in Sofiysk.

Next to the above-mentioned gold districts all others in the area of the Amur-Ussuri region and also in the Maritime Krai are of subordinate significance. Only those districts should be named here which are grouped in a gold mining administrative agency: thus, the gold district in the valley of the Sutar with its center in Radostny' in the Jewish Autonomous Region and three gold fields west of the lower Amur, in the area of the area of the Amgun and Kerbi rivers and north of the Orel Lake. On Sakhalin there is a corresponding district only south of the upper Poronay. In Kamchatka and in the entire coastal area the extraction of gold is scarcely worth mentioning.

In contrast to the reduction in importance of the above-named areas, the Kolyma area has in the last few years stepped into the center of interest almost with a jump. Today it exceeds in productivity all the other gold districts both in the Far East and also in the whole of the Soviet Union.

The first reports of gold occurrences in the area of the upper Kolyma go way back, and there were also reports on Cherskiy. However, only the successful expedition of the Central Institute for Scientific Research and Geological Inquiry, under the leadership of Bilibin, whose report was given in 1932, caused the Soviet Union to proceed to the exploitation of the gold fields in 1933. The first successes and the

knowledge of the wealth of this region were spurs to pushing recklessly forward in the exploitation by using work camps. As a consequence, the Kolyma area today is among the most notorious regions in the Soviet Union, and is one of those most feared, because of the harshness of its climate. 135

For the opening up of this area building was done on the harbor and city of Magadan on Nagayevo Bay. The inhabitants of this city today are estimated to be 50,000. A highway was laid out to connect with the gold fields; by 1940 this highway had already attained a length of more than 700 kilometers, and it connected all the important mining centers. The road is kept usable for trucks the whole year through. The supplying of the entire area is done via the sea route, for the most part via Magadan, and for the rest from the north via the Kolyma. Since these connections, however, are closed off by ice for more than six months during the long winter, they proceeded to create a permanent land connection by building a highway from the center of the gold district to Yakutsk on the Lena. Of considerable importance for the development of this regions is also the fact that hard coal has been found on the Kolyma in the vicinity of the town of Verkhne-Kolymsk. Some Sovkhoz have been founded as a local source of supply for vegetables, milk, and fresh meat. [491]

The main gold fields lie west of the Buyunda, a /169/ right tributary of the Kolyma, primarily in the area of the Srednikan and Orotukan rivers. At first only the very productive gold streams were exploited, but then the mining of mine gold was also taken up. Mine gold is especially rich in the mountains on the Srednikan, on the Utina, and on the Khatynakh. The most important centers of the gold district are Srednikan, Orotukan, Khatynakh, and Seymchan.

Gold extraction in the Kolyma region developed as follows in comparison with the total production of the Soviet Union (Figures are in 1,000 kilograms): 316 433

	1933	1934	1935	1936	1937	1938	1939
Soviet Union	83.0	120.0	149.0	163.0	176.0	192.0	210.0
Kolyma Region	0.3	1.2	8.0	12.3	20.0	30.0	51.0
Percentage of the whole supplied by the Kolyma Region	0.4	1.0	5.4	7.5	11.3	15.6	24.3

(Table continued on following page)

133 Transbaykal/. Material for Doing Research on the Ground in Asiatic Russia. Moscow, 1927.

flat steps, heaped up on one another; they appear easy to climb from the south but break off sharply toward Baykal. However, sharp ridges and pointed, pyramid-shaped mountains appear in the western part, especially in the area of the upper course of the Temnik and the Snezhnaya. Here also lie /211/ /The page itself is blank. Attached to it, however, is a sketch map of Transbaykal: Orographic Scheme/ /212/ the greatest projections of an Alpine type, rich Karbildungen /Karformations/, and other traces of a former glaciation. The bulk of the mountain range has a width of 40 to 70 kilometers and heights of only between 1,200 and 1,600 meters. But the saddles and passes are only 200 meters lower. Outcroppings of basic stone, principally gneiss and granite, occur mostly only on the lower parts of the slopes. The southern and eastern parts present a motley geological picture. Represented here primarily are crystalline limestone and other matamorphic rock, then porphyrite and basalt. In the Khamar-Daban radioactive materials have been determined in addition to other minerals. The bulk of the mountain range is covered [137] with thick forests. Only a few bare gol'tsy project beyond these forests in the eastern part, and only higher Alpine forms project beyond the tree line in the western part. The composition of the forests is strongly influenced by climatic conditions. On the slopes inclined toward Baykal and exposed to the damp and cool northwest winds there is typical Siberian taiga with larches, Siberian stone birch, pines, and others. On the dry southeastern slopes, on the contrary, pines predominate almost exclusively. The flat ridges are covered by an underwood and bush formation.

The Khamar-Daban is separated from the Borgoyskiy Mountain Range on the south by the valley of the Temnik, which flows down to the Selenga. The Borgoyskiy Mountain Range runs parallel to the Khamar-Daban and generally has the same character except for the fact that toward the south it is more heavily broken up /zergliedert/ and with wide, open valleys declines to the extensive graben depression of the Dzhida. In contrast to the Khamar-Daban and the Borgoyskiy Mountains, which are difficult to traverse and not very attractive because of their forest wilderness, the Dzhida valley is relatively well opened up. This goes back to the valley's valuable natural resources. [138] In the area around the upper course of the river there is, in addition to coal, rich supplies of wolfram and especially of molybdenum. These deposits can be reckoned among the richest in the Soviet Union.
[Cf. pp. 238-239--Analyst]

peculiar only to dry climates. At the foot of the Ikatskiy Mountain Range numerous warm springs bubble up; these springs contain above all sulphates. In addition there are mineral lakes, which, like the Alginsk lakes, lies in a basin of sulphate of soda of significant thickness. Below the locality of Barguzin the mountains come right down to the river and shut off the extended valley basin. Here begins the third part of the Barguzin Valley, the breach valley of the Barguzin toward Lake Baykal. On the right side the mountains press forward right to the river and present picturesque, alluring landscapes. On the left side, on the other hand, the mountains withdraw more or less /220/, making free a flat area along the shore. This landscape on the lower course of the river accompanies the river for almost 40 kilometers. Thus the Barguzin Valley presents an extremely remarkable landscape. Epsom salt lakes between alluvial swamps and lakes in the valley basins of rivers rich in water; wide development of sands with dunes and steppe vegetation; traces of desert-like disintegration; permafrost; warm springs; thick taiga on the circumference; snow-covered mountains in the background; all this shows a heaping up of contrasts such as is undoubtedly rarely found on the earth. The area around the upper course of the Barguzin has alluvial sands rich in gold. For the rest this area is traversed only by Tungus reindeer breeders. The other part of the valley basin is an island of settlements in the middle of uninhabited mountain forests. Numerous Russians and Buryat here devote themselves to the breeding of livestock and to very considerable agriculture with irrigation. The rivers coming from the side valleys of the mountain range are used especially for the irrigation of the fields. The center of the main area of settlement is the village-city of Barguzin, which always has several thousand inhabitants. This city lies on the river of the same name. The Barguzin River is also navigable from here down and, via Lake Baykal, it represents the sole connection with the outside world.

[133] [312] [135] [135] [361]

Just north of the mouth of the Barguzin the Svatoy Noz Peninsula adjoins the land. This peninsula forms an island which is 55 kilometers long and is transversed by two mountain ranges which are up to 1,587 meters high. Only later is this island joined to the shore by a flat narrow piece of land. The material for this is supplied by the Barguzin, the heaping up and the alluvium provide for the current and the waves of Lake Baykal. The original view that the peninsula is a continuation of Ol'khon Island has shown itself to be incorrect, as Busch has shown. On the contrary Ol'khon Island is an underwater ridge running to the

The wealth of natural resources is, however, of far greater 135 •
significance for the economic development of the future.* In this 489
connection the non-ferrous metals in addition to iron ore should be mentioned primarily. The still insufficient connection with the transportation network, however, offers the greatest handicap to the exploitation of the natural resources. Apart from the railroad line which runs from Karymskoye to Otpor to Manchuria, there are only land routes available. Even the very important zinc-lead mines in Khapcheranga, in Mangut, and on the Sokhondo can be reached from the Ulstuy station, west of Karymskoye, only by a built-up land route which is around 320 kilometers long. And by the same route, too, the produce of the mines must be brought to the railroad line on trucks. Because of the smaller differences in height the land route along the Onon valley to the Olovyannaya station has recently been used in perference to the above-mentioned route, which crosses more mountain ridges. Also the regions in the angle between the Manchurian side branch of the railroad and the Argun can only be reached by built-up land routes and truck transportation. Borzya on the railroad line appears to be 361
developing here into the traffic center. Toward the east a narrow-gauge railroad leads to the /229/ non-ferrous metal mines of the Argun district, and toward the southwest a similar line leads to Choybalsan in the Mongolian People's Republic. The city itself, located in the middle of the Argun steppe which is rich in livestock, has a large meat plant. In addition to Borzya there should also be mentioned on the Manchurian branch of the railroad the city of Olovyannaya, which has already been mentioned several times and which is known for its tin works. The bulk of the other localities have already been listed in the discussion of the natural resources.

*[i.e. of the Aginsk steppe -- Analyst]

The Vitim Plateau and the Northern Forested Mountain Provinces

To the north of the Yablonovyy Ridge, spreading east of the 133
Ikatskiy Mountain Range, is the Vitim Plateau, which is adjoined on the north by a series of mountain ridges. The entire region represents a forest mountain range landscape, which climatically is very raw and which makes it very difficult for man to make his way here. Agriculture disappears almost entirely here or is limited to small islands which are scattered sporadically. Only Tungus hunters and reindeer breeders in small numbers traverse the thick taiga and pass a laborious life. However, these wastelands conceal extraordinarily rich gold 316
streams, which are diffused especially in the central part of the Vitim Plateau and which have brought into being active gold

361 Only in the southeast in the triangle between the Amur and the lower Zeya is there an agricultural settlement covering an area of any size. In the rest of this region a zone of settlements with many gaps accompanies the Amur and the railroad.

496 The Amur Railroad runs approximately along the middle of the plateau and uses the watershed exactly, since along the watershed there was, for understandable reasons, the best and the easiest opportunity for marking off. A branch railroad, 38 kilometers long, leads from Ushumun station to Chernyayevo on the Amur, in the center of a

0135 region with great prospects for the future, for here only a few years ago hard coal deposits were determined. These deposits stretch along the left side of the Amur between its tributaries, the Urinda and Magdagachi, i.e., approximately around the locality of Chernyayevo mentioned above. The coal is of Jurassic age and lies in individual anticlines, which stretch toward the northeast. Although, judging from individual tests, the ash content of the coal is supposed to be great, the deposits have a prominent significance because they lie in a region /243/ /Sketch Map of the Amur Oblast:/ which formerly had to be supplied with coal from a great distance. In some places the coal-bearing layers are broken through by granite laccolite and porphyry effusions, and thus the coal here has been transformed into valuable semi-anthracite and full anthracite. Nothing is known of the total supply in the deposit designated by the Russians as the "Upper Amur Coal Basin." There are numerous outcroppings on the Amur and in the individual river valleys. Very recently the mining of the coal deposits in the vicinity of Madgagachi has begun.

361 The principal locality in the northwestern part of the plateau is Magdagachi (approximately 10,000 inhabitants); the principal locality in the southeastern part is Shumanovskaya (approximately 25,000 inhabitants). Both of these towns lie on the Amur Railroad.

[487] The Tygda station between Madgadachi and Ushumun has greater significance in terms of transportation. A land route leads from Tygda via Ovsyanka, which lies at the point where the Zeya and the Urkan flow together, to the Tukuringra break-through of the Zeya. This is the shortest land route connection from the Amur Railroad to the gold fields on the upper Zeya and the Gilyuy.

133 /244/ East of the lower Zeya begins the Zeya-Bureya Lowland, which stretches toward the east along the Amur over a broad area extending beyond the lower course of the Bureya. The end of this low plain is prepared by the high embankment of the Bureya Mountain

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the name of "Birobidzhan," which is often used. The capital of this oblast
361 also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000 inhabitants (1939). Worthy of note is a large clothing and knitted goods [294] factory, which is the sole large installation of this type in the entire
• 135 Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even
241 in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation
234 of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large [161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid [39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking [382] installation has been added to the older oil refinery in order to process [508] the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there [241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

133 meadows on the river, otherwise they are covered with spotty clumps of grass. Where this grass is destroyed, the loose sand shows through, and the wind blows this together into dunes. The shores of the rivers are flat and predominantly covered with meadow, over which the [311] high water extends. The old shore embankments are of greatest importance for human settlement; the broader ridges are as a rule plowed up and used for vegetable gardens, while the areas which become flooded serve as meadows or are used as hay fields. Now and again the entire plain is narrowed down by approaching mountains, or the plain widens to a great breadth with the neighboring depressions adjoining it. In such an area, in wide, swampy surroundings, lies the very flat Lake Bolon' which is 1,200 square kilometers and which is connected to the Amur by a broad water stream. The water level of the lake follows that of the Amur, and when the water is high even a backward flow is to be observed. At Komsomol'sk the hilly mountains come right down to the river on both sides and force the river into one continuous bed. Here ends the contiguous line of the real Amur plain with its magnificently flat relief, /257/ and an irregularly formed landscape begins. Nemerous rows of hills and chains of mountains with heights of up to 500 meters, indeed, even up to 900 meters, make the general picture more lively. The Amur again and again gains in area and widens often like a lake with numerous islands in the broad valley areas and forms in its neighborhood standing water in the form of long lakes in individual basins and old river beds. Despite this, the overall character of the far more broken up Amur plain is determined by the tributaries, which flow into the Amur from both sides in long, often curved, wide valley areas and which increase still more the degree of dividing up of the country. First to be mentioned in this connection is the valley of the Gorin, which extends into a broad depression in the hinterland and which conceals there the big •[135] Lake Evoron. Further down are the plains of the Limuri and Pilda; the area around the upper course of these rivers is known for its gold sands. 133 Finally there is the extended valley of the Amgun which is more than 137 800 kilometers long. The general landscape picture changes its face but little toward the north. Meadow steppes, overgrown with high grasses, are also still typical here, even though the ground becomes ever damper toward the north and the swampiness increases. The same applies also to the appearance of broad-leaved deciduous trees within the forested areas; these forests represent characteristic mixed forests on the lower hills and mountains. In the direction of the

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has received its name. By 1939 it already numbered 70,000 inhabitants, [161] and today its population is estimated to be more than 150,000. The [34] city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [37] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire 361 area around the lower Amur. Already several years ago the city was 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

other hand, an elevation still appears to hold sway at present. Many 133
rivers emptying into the sea show delta formations.

As a consequence of the southern current running along the coast, numerous narrow tongues of land separating small bays from the sea have formed. All these tongues of land point toward the south. The deltas mostly lie left of the river courses, which, therefore, show a wandering to the right and which also dig under the shore on the right side. The sea current is weaker and irregular on the southern coast, which is heavily broken up; thus tongues of land here can run in all directions.

The most important bay on the east coast is Ol'ga Bay. It was discovered in 1787 by La Perouse and forms one of the best natural harbors on the coast. Lying off the bay are the small, rocky Chikhachev Islands. The bay itself has a diameter of 3 kilometers and is on the mean 25 meters deep. Once it was at least three times as large and reached much more deeply into the land toward the west. Today the valley areas of the rivers emptying into the bay become swampy. When there is a strong east wind, a backward flow can even be determined. The old marine abrasion terraces are very well preserved on the mountains at a height of 25, 30, and 120 meters. The low mountains surrounding the bay consist of granite, quartz porphyry, and sedimentary rock and contain above all iron /264/ in addition to lead [135] ore containing copper and silver. This iron is magnetite with an iron content of 50 percent; the iron is being mined here. The harbor locality of Ol'ga has several thousand inhabitants. In the hinterland of the bay [361] Russian peasant settlers have made their appearance.

The Tetyuke Bay has a greater economic importance. Here, 316
35 kilometers from the coast, is the most important zinc-lead-silver 504
ore in the Far East. A narrow-gauge railroad connects the mining installations and the preparatory installations with the harbor, which has gotten modern loading equipment very recently. The harbor locality has several thousand inhabitants. Here, too, there are agricultural settlements in the hinterland.

Between the two above-mentioned bays is a third bay, the 133
Vladimir Bay. It is surrounded on all sides by granite mountains which are up to 225 meters high. The bay has a depth of up to 12 meters. Fresh water lakes and swamps enable us to recognize the former larger expanse of the bay. Two projecting rocky peninsulas enclose the bay. Vladimir is known for its installations for the extraction of iodine from seaweed.

regions, the Sikhote-Alin' can still, as always, be designated as rich in forests. Planned exploitation of these forests has still not been begun at all. Of still greater significance for the future are the vastly rich resources of the ground. The southeastern part of the Sikhote-Alin' appears to be a true mine for the latter. However, a large part of these supplies has still not been once sufficiently investigated. The prospects for development along mining and industrial lines are always completely favorable, only an opening up in terms of transportation must pave the paths to the sources.

The extreme southern part of the Sikhote-Alin' is generally relatively thickly populated, and it is also better opened up from Vladivostok on. It already belongs more to the cultivated zone, and economically, too, it is so closely connected with the cultivated zone that it will be treated in connection with the Ussuri-Khanka depression.

The Ussuri-Khanka Depression

The western foot of the Sikhote-Alin' is, for its entire length, accompanied by an extensive depression, which stretches from the Gulf of Peter the Great to the mouth of the Amur, thus covering more than 1,300 kilometers. The Ussuri-Khanka depression forms the larger, southern part of this long depression and has a total length of 700 kilometers from the southern end to the mouth of the Ussuri. As compared with the Sikhote-Alin', this depression represents the sunken part of the land step and is accompanied on the west by the step, again elevated, of the east Manchurian mountain range. In the Tertiary period, the entire depression, as Ivanov (83) assumes, was flooded by the sea, and

83. Ivanov, D.V. The Sikhote-Alin' Ridge /in Russian/. Petersurg, 1896.

thus the Sikhote-Alin' projected from the sea as a long, narrow island. Proof of this view has been attained up to now only for the southern part of the depression.

The bulk of the depression belongs to the drainage area of the Ussuri. A flat watershed, which is scarcely perceptible in the countryside and which has an absolute height of only 190 meters above sea level, separates this section of the depression from that section of the depression whose waters drain off toward the south, i.e., the river

137 appear extensive moss steppes, which have a similar character to that of the tundra, and these regions have an almost polar appearance. The south, on the other hand, has milder traits in places. Since rich
• 135 coal and oil supplies have been discovered in very recent times and since their exploitation has begun, the island is sliding more and more into the foreground of economic interest; the population is increasing rapidly and is adapting itself to the island. With this the bad reputation of the island is also beginning to change.

133 According to the relief, Sakhalin is divided into two parts: a larger, mountainous section in the south, and a smaller section in the north which is gently rolling to hilly. The mountainous south consists of two mountain chains, which run in the direction of the island and which are separated from one another by a depression stamped as a longitudinal valley. The depression is drained toward the north by the Tym' and toward the south by the Poronay.

/278/ The eastern mountain range, whose highest elevations are Nevel'skiy Mountain (2,013 meters) and Lopatin Mountain (1,680 meters), is more heavily divided up than the western mountain range, which also is lower generally and whose highest point, the Aimi Yama, reaches only 1,641 meters. In its external impression, the eastern mountain range should be designated as more of a ridge mountain range. It consists principally of metamorphic rock, slate, sandstone, and limestone which is similar to marble. These are the same stones as those which build up the border chains of the mainland. These sedimentary stones are in many places permeated by syenite, diabase, andesite, and basalt. Granite, however, is lacking. In terms of age, most of the sediment of the eastern mountain range is reckoned as Paleozoic. Mesozoic is diffused only in places and then is only slightly developed. It is different in the western mountain range. This is built predominantly from Tertiary layers, beside the older rock. Jurassic and Cretaceous also lay claim to a significant proportion. Cretaceous appears especially in the southwestern part and is diffused in the former Japanese territory. Weathering effects are very great because of the damp climate; they affect especially the parts of the mountain range without forests. The sharper forms and the greater variety in the relief can be traced back for the most part to the varying powers of resistance of the different types of rock. The loamy and gravelly slate weather especially quickly.

The Tertiary deposits, which have a wide diffusion in all of Sakhalin, and the Cretaceous sediments are heavily destroyed. The

is the alluvial land character of the eastern coast, on which there is 133
one fresh-water lake after another, almost lined up in a row. All
these lagoons are extremely narrow, but they are up to 160 kilometers
long. In contrast to the restless sea, these lagoons permit /280/ a
protected water traffic along the coast. Sandy places with dune forma-
tions, however, are only rarely to be found here. Mostly vast, tundra- [135]
like moss steppes, which consist of peat layers up to 15 meters thick,
spread out here on the lower courses of the rivers, and are especially
extensive on the Tym'. Here, as on the western side of the island,
these steppes are excellent meadow lands for reindeer herds.

The difference in the coastal formation between the western and the eastern parts of the island can be traced above all to the prevailing current. On the eastern side the current goes along the coast toward the south. On the western side a current toward the south prevails within the Tatar Sound on the coast of the continent, while on the coast of Sakhalin an opposing northern current predominates. This northern current, however, as Zhdanko (188) has indicated, does not

188. Zhdanko, M. "Isvlechenie iz doklada v zasedanii I.P.G.O." Excerpts from the Material at the Meeting of the Geographical Society in 1915/, Izvestiia of the Imperial Russian Geographical Society, 1915.

run regularly; rather the current changes in connection with the tides; thus there are only tendencies toward an irregular level coast.

Climatically the low northern part of Sakhalin is the most dis- 137
favored, since no limitations are set to the raw influences of the Sea of Okhotsk. Therefore, the appearance of the Daur larch is just as typical here as the appearance of the Ayan spruce. Toward the south in increasing measure the taiga also has deciduous trees of the same type mixed in as are characteristic of the Sikhote-Alin'. A consequence of the damp climate is not only the moss areas near the coast but also the meadows which appear in the more protected flood plains of the rivers. These meadows have a very heavy growth of grass, which in places is 3 to 4 meters high. Senecio cannabifolia and Petastes japonicus should be mentioned as among the principal types represented here. In the mountains themselves the stone birch, Betula ermani, appears as the characteristic tree in the heights as do the spruces and pines. In more protected valleys stocks of pure deciduous trees are no rarity. Worthy of note is the appearance of wild Kuril

Tertiary fault mountain range zone of East Siberia. On the one side, 133
this mountain chain is supposed to have been connected with Sakhalin, and on the other it is supposed to appear again in the Taygonos Peninsula, in the western part of the Penzhina depression, and in the northern part of the Anadyr' region. In the coastal region this chain appears characteristically in the Chutnavar Mountains, which stretch in a wide peninsula from west to east and which are separated from the mainland mountain ranges by an extensive valley which runs in the same direction. Through this valley flows the Kaza Tau'. The mainland mountain ranges referred to above are spurs of the Cherskiy Mountain Range, and with their ridges and the valley areas lying in between, they run into the Kaza-Tau' valley almost perpendicularly; thus in a narrow area the opposing construction appears clearly. For the rest the Tertiary mountain chain appears only in island remains, on the Koni and Pyagina peninsulas and then on Taygonos Peninsula.

East of the Yama begins the Kolyma Mountain Range, which from here on stretches toward the northeast parallel to the coast and then in the hinterland of the Taygonos Peninsula turns toward the north-northeast into the interior of the land. But, in contrast with the Dzhugzhur, the watershed lies far from the coast. The mountain range slopes toward the coast and is broken up into individual parts by numerous long and relatively wide erosion valleys, which run almost perpendicular to the coast. Thus the general impression remains the same as in the west between Okhotsk and the Yama, where the spurs of the Cherskiy Mountain Range meet the coast at the same right angle. However, in the coastal region of the Kolyma Mountain Range the valley areas and also the coastal plain are smaller in size. In the background of the Gizhiga Bay, between the Kolyma Mountain Range and the Taygonos Ridge lies an extensive depression, which is filled with Tertiary deposits. In this depression coal-bearing layers have also been discovered in very [135]
recent times; these layers contain industrially valuable deposits of brown coal and lignite. Natural outcroppings of the productive seams are even to be observed on the coast of Gizhiga Bay.

The northern location comes out more and more in the landscape 137
picture of the coastal region east of Okhotsk. The protected valley areas are as a rule covered with good meadows, which offer /289/ usable pastures for cattle and horses and which are also rich in hay fields. The courses of the waterways are followed by meadow bushes and rows of poplars. Birches set in toward the upper courses. The slopes are mostly covered with larch forests, which become light and low in the heights.

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same [505] names. During the summer, connection between these localities is [487] maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities are Orotukan and Khatynakh. For connection with the outside world 491 a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated.

361 563 [225] [161] 135.

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

almost never penetrates into the land, however. 000

The area occupied by settlements is very slight in the east and 361
in the center of the depression. In the west, on the other hand, there 563
are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives.

There are only a few settlements on the coast because of its 361
flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region [505]
and is regularly visited by coastal steamers. A short while ago rather [135]
large Eocene brown coal fields were found in the vicinity of the locality. ●
The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/
and supplies the coastal steamers. In addition, Anadyr' is the central [255]
station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory.

Toward the southwest the Anadyr' depression goes over into the 133
Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which

133 flows into the Sea of Okhotsk. In comparison with the Anadyr' region
[137] the climate here in the Penzhina lowland is somewhat milder. The inclination of the ground is greater, and thus the moss steppes widely diffused here are not so very swampy: the larger rivers are accompanied by poplar forests almost everywhere. Toward the mountains there is the same alternation in the vegetation picture as there. At the mouth
361 of the Penzhina lies Kamenskoye, where the coastal steamers land.
563 The capital, Penzhina, itself is a small village lying in the middle of a lonely moss steppe in the interior of the region. Koryak constitute the majority of the small population. They are in part sedentary, living as fishermen in the villages, or they wander as nomads with their reindeer herds on the good grazing grounds of the moss steppes.
• 135 In the Tertiary layers, which fill the Penzhina basin, coal-bearing series have recently been found, which also contain lighter lignite in addition to brown coal of good quality. The deposits are said to stretch almost over the entire Penzhina basin.

133 On the east the Penzhina lowland is bordered by a flat mountain ridge, the Penzhina Mountain Range. The very long moss steppe, the Parapolskiy-Dol, whose character is like that of the Penzhina lowland, stretches on the other side of the Penzhina Mountain Range from southwest to northeast. In the south this moss steppe widens and traverses the entire land narrows which connects Kamchatka with the mainland. Here in the middle of the land narrows the moss steppe reaches a height of 155 meters.

The region between the mouth of the Anadyr' in the north and the land narrows in the south is taken up by a still little known central mountain range, which is usually designated the Koryak Mountain Range, after its principal population. This mountain range fills the entire area as far as the east coast, and its waters in the main empty into the Bering Sea. Traversing the land which is mostly formed like a high plateau are three lines of mountain ranges: the Pal-Mal, the Tingeney, and the Rarytkin Ridge. Like the entire Koryak Mountain Range generally, these three belong to the outer zone of the Tertiary faulting belt and are regarded as a continuation of the Kamchatka Mountain Range. In contrast to the interior which is like a high plateau with a general height of 500 meters, the rivers flowing toward the coast are deeply dug in, and thus from the sea an impression more like a mountain range arises. The bulk of the surface is covered with tundra, only the more protected places and valleys have forests. Reindeer-breeding Koryak inhabit the interior and also constitute the population of the [1295] fishing settlements on the coast.

population of the /295/ fishing settlements on the coast. The center of the fishing and the processing of fish is Ust'-Apuka, west of Cape Olyutorskiy. 361 583

Tertiary brown coal deposits have also been found in the Koryak Mountain Range in Korff Bay in the south and in the Ugol'naya Bay in the extreme northeast. In Korff Bay the deposits have already been mined for years, and the coal from here is used to supply coastal shipping. The coal here is of Miocene age and is contained, as far as the supplies have been investigated to date, in 11 seams with a total thickness of 20 meters. In this the quality of the upper seams is very different from that of the lower seams. The uppermost seam represents typical lignite; the lower seams, on the other hand, are like a gleaming, bituminous coal. Mining is supposed to have been taken up in Ugol'naya Bay also, and a coal base is likewise supposed to have been erected. 135

Kamchatka Peninsula

Like a spearhead Kamchatka Peninsula projects toward the south, separating the Bering Sea from the Sea of Okhotsk. The peninsula covers 270,000 square kilometers and has a length of 1,200 kilometers, which corresponds approximately to the distance from Berlin to Rome. 133

South of the Parapolskiy Dol plateau which stretches across the land narrows, the first lines of heights begin, and these then develop into two mountain chains as the peninsula widens. Between these two chains, the western and the eastern, is imbedded the valley of the Kamchatka River.

The low medium mountain range of the west increases considerably in height south of the Palana River. In the area of the Tigil' River the main chain is richly divided up, is accompanied by parallel chains, and reaches already a height of 1,650 meters. In the area around the source of the Bystraya and the Icha rises the truncated volcano cone of the Ichinskaya Sopka, which projects over its approximately 1,200 meter high ground area to the gigantic height of 3,607 meters. The mighty dome of the mountains is covered with glaciers, from which some hanging glaciers flow down. The water from the melting of these hanging glaciers has torn deep furrows. The Ichinskaya Sopka is the sole active volcano in the western half of Kamchatka; thick smoke rises constantly from its crater. South of the Icha the character of the mountain range changes basically. North of the Icha,

The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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1. Aziatskaia Rossiia /Asiatic Russia/. Collection, processed by the

tree here, being completely dominant on all the slopes inclined toward the sea--both the Sea of Okhotsk and the Bering Sea; accordingly there is an overwhelming impression of a forest of deciduous trees. Only in the interior, where the continental climatic traits predominate, is the /98/ east Siberian taiga with the Daur larch preserved under the protection of the two mountain ridges. The higher mountains projecting beyond the tree line are again covered with a bent wood vegetation /Krummholzvegetation/, which is especially thick on Kamchatka and which often makes wide areas almost impenetrable. Along the west coast a tundra-like moss steppe has developed, which covers the northern part of the peninsula across from west to east. In contrast to the conditions which become more unfavorable toward the north, the vegetation increases toward the south both in abundance of growth and in types. Worthy of note is the appearance here of the Japanese birch (Betula japonica) and of numerous higher types of grass, such as Heracleum tanatum and Heracleum dulce, and the wide diffusion of the bear root /Bärenwurzel/ (Angelica ursina), which becomes up to three meters tall. The appearance of extended forest meadows in the southern part of the peninsula has also caused the introduction of cattle breeding. 137

The regions of the extreme northeast can generally be designated as tundra or forest tundra.

The World of Animals

Following the pattern of the natural vegetation set-up, the animal world has the same juxtaposition of the most varying forms. East Asiatic and Inner Asiatic types join with the Siberian types. In the land once famous for its wealth of wild animals, an unbelievably rapacious economy /Raubwirtschaft/ has either destroyed the useful wild animals or driven them into inaccessible regions. Nevertheless, the regions still little touched by man are extraordinarily great, and there the animals have been able to preserve themselves in all freedom and in great numbers. 136

Numerous rodents, which are especially characteristic of steppe regions, are native to the forest steppes and steppes of Transbaykal: for example, the "suslik," the ground squirrel (Citellus Eversmanni and Citellus dauricus); the "tarbagan," a type of woodchuck (Arctomys bobak), the earth hare or jumping hare /Erd- oder Springhase/ (Alactaga saltator mongolica), and others. Larger steppe animals,

• 136 however, either are lacking or have been exterminated. The still untouched forest areas both in Transbaykal and in other regions, on the other hand, are very much richer in animals. Two real northern animals--the reindeer /Ren/ and the elk--live as far down as the northern Sikhote-Alin'. The reindeer is kept by the native Tungus as a domestic animal, but the wild reindeer can also still be found in large numbers in the north. The elk (Alces machlis) prefers swampy regions with deciduous forests and on its long wanderings penetrates as far south as 46° latitude. In contrast to its northern brother, the Ussuri elk does not have palmate antlers /Schaufeln/, but rather only stick-like antlers /Stangengeweih/, but it is just as big and primeval as the northern elk. The stag is hunted the most; the stags hunted here are the large "isiubr" (Cervus canadensis Luhdorfi) and the smaller spotted stag /Fleckenhirsch/ (Cervus Dybowskii). The latter, which belongs to the Sika stags /Sikahirschen/, is easily tamed and is therefore to be found in most European zoos. With /99/ the "isiubr" the Panten /spikes?/, the still unhardened antlers, are especially valuable and are exported to China as a folk medicine which brings good prices. Reckless hunting has driven the "isiubr" into the most remote regions. Both types of stag are bred on farms today. Widely diffused are the roe and, in mountain regions, the wild sheep, which appears in various types: Ovis ammon monglica in Transbaykal; Ovis jubata and Ovis Middendorffiion the Amur and Uda; Ovis storcki and Ovis alleni on the Sea of Okhotsk; and Ovis nivicola on Kamchatka. Beasts of prey are very numerous in the taiga. The animal characteristic of the taiga is the bear. He plays a big role in the mythology of the natives and is designated respectfully as "the lord." In addition to the usual brown bear, there is also a small black type and as well as the Tibetan white-breasted collar bear /Kragenbär/ (Ursus tibetanus), which is considered to be especially evil. In addition the following should be mentioned here: the wolf, the red wolf (Cuon alpinus), the glutton (Gulo luscus), the lynx, the wild cat (Felis euptilura), and various types of foxes. The red wolf is a jackal-like wild dog and as a rule is to be encountered wherever the wild sheep appears.

Various valuable fur animals are much hunted and therefore in many regions almost completely exterminated; examples of these are the sable (Martes Zibellina), the marten (Martes flavigula borealis), the ermine (Mustella erminis), the fish otter (Lutra vulgaris), the squirrel (Scurius vulgaris), and the rarer flying squirrel (Sciuropterus volans). Most of these animals have withdrawn to the remote parts

of the forest regions.

In the Ussuri region and in the Sikhote-Alin', because of the 136
the southern location, still other animals worthy of mention appear in addition to the inhabitants of the forest regions already mentioned. Characteristic animals here are the Amur tiger (Felis tigris longipilis), the wild boar (Sus leucomystax continentalis), and the peculiar marten dog /Marderhund/, "enot," (Nyctereutes procynoides). The wild boars, for whom the oak forests provide excellent nourishment, dwell in great numbers, mostly in herds, in swampy regions with forests of deciduous trees or mixed forests. Following them is the tiger who is larger and has a more valuable fur than the Bengal king tiger /Königstiger/. He is, however, to be encountered only very rarely and only in mountain areas off from the beaten track. The marten dog is a dangerous beast of prey, who hunts roes and often even penetrates into the dwellings of men.

The world of birds is represented in large numbers. While tundra birds, such as the partridge (Lagopus mutus), nest on the mountains projecting beyond the tree line, in the Ussuri region we find numerous southern forms, such as the pelican, white heron, and the Cormorant. In the forests mountain cocks, black grouse, and numerous woodcocks are to be encountered, and in clearer regions partidges, quail, and also pheasants are found. The pheasants often migrate in large numbers from Manchuria into the Amur and Ussuri regions. Swans, wild geese, ducks, divers /Taucher/, and moor hens /100/ appear in very large numbers on all lakes and swamps. Khanka Lake is a real paradise for birds.

Amphibians and reptiles are to be encountered everywhere; they are especially numerous in the warmer Ussuri country. Among the snakes special mention should be made of the Natter Coluber Schrenckii, which becomes up to 1.5 meters long and 6 centimeters thick, and the especially poisonous Ancistrodon Blomhoffi.

The insect world should not go without mention. In the summer immense swarms of gnats develop which make life a real plague for both man and beast. Especially irritable are the stings of small stinging gnats, which the Russians designate generally as "gnus," i.e., vermin.

Of greater economic importance is the wealth of fish in all parts of the sea near the coasts. Every year great swarms of herring appear in the south, coming from the Sea of Japan. The area around the mouth of the Amur is distinguished by the regular appearance of

•136 great schools of salmon, which come up the river to spawn. Most numerous are two types of salmon--the Keta salmon (Oncorhunchus Keta Walb.) and the humpback salmon called the gorbusha by the Russians. The Sea of Okhotsk has in addition herring, cod, tuna fish, and mackerel. The coastal area of Kamchatka have the riches supply of crabs in the world. On the eastern side of the peninsula it is principally Pacific types of salmon that are caught: the red salmon (Oncorhunchus nerka Walb.), the silver salmon (Oncorhunchus Kisutch Walb.), and the king salmon (Oncorhunchus tschawytscha Walb.). Originally the Bering Sea was extraordinarily rich in sea animals, expecially whales and seals, but these have been heavily decimated by man.

/101/ THE POPULATION

Prehistory and Colonization

171 Various discoveries of New Stone Age implements prove that
172 the Amur and Ussuri regions were already occupied by man at the turning point between Diluvium and Alluvium /the Diluvial and Alluvial Ages?/. Among the tools found are simple hatchets, chisels, spearheads, scrapers, and knives, hammered out of stone; but also known are polished tools such as those of the Neolithic Age in north Germany. Additional findings of an advanced, more recent Stone Age show string and ribbon pottery, similar to that of Europe's culture at the same time. (181)

181. A. Schultz, Das Ussuri-Land /The Ussuri Region/ (Königsberg, Prussia, 1932).

175 We derive our first historical information on these same regions from the old Chinese history books, which go back to 2500 B.C. According to these sources, in the land of the Amur and Ussuri there lived the Sushe in the east, the Huei (also called Hueimai) in the middle of Manchuria, and the Tonghu /Dunghu/ in the west. All three peoples, who were subdivided into numerous smaller tribes, are mentioned in the same areas even as late as the second century B.C. According to present-day research, the Sushe and the Huei are to be interpreted as Tungus, while the Tonghu /Dunghu/ are regarded as pre-Mongols. Discoveries of Stone Age culture of the latter people extend over all of eastern Mongolia. The Sushe and Huei lived predominantly in forested areas, while the Tonghu preferred the open plains. Thus, even

133 over long years, Lake Baykal remains for 116 days under a solid ice
132 covering, which can attain a thickness of up to 1.25 meters.

The fauna of the lake[1] is peculiar, representing a true collection
136 of endemic forms. Of the 1,000 types determined so far, around 75 percent are endemic. Here in the middle of the continent there is a type of seal called "nerpa" by the Russians (Phoca sibirica), which is related both to the same type found in the Arctic Ocean (Phoca hispida) and also to one found in the Caspian (Phoca caspia). The next fauna worthy of mention is the small, viviparous spider fish (Callionymus baicalensis), whose family (Comephoridae) is peculiar only to Lake Baykal. Exceedingly large is the number of mollusks. To date 85 types have been determined, of which two endemic families of brachiopods (Benedictiidae and Baicaliidae) are typical fresh water representatives. The great age of the Baykal fauna, which must have followed an isolated development, indicates the /209/ /Sketch Map of the Provinces:// /210/ appearance of the Baicalia mollusks already in the fresh water deposits of the lower Cretaceous in Transbaykal.

505 As a result of its depth and its favorable natural landing places, Lake Baykal offers the best opportunities for water transportation. A steamer line which is traveled regularly, connects all the larger settlements with one another and also serves the transportation of goods. Wood constitutes the bulk (40 percent) of the goods transported, in second place are stones and building material (30 percent), then follow fish, salt, flour, and others. The wood as a rule is floated down the rivers to the lake and then is transported by steamer tugs to the mouth of the Angara, where it is transferred to the railroad in Baykal station, which is equipped with mechanized loading equipment, or a small part of it is floated directly to Irkutsk. Wood is delivered on the Transbaykal side primarily by the river areas of the Barguzin and the Upper Angara.

228 Also of economic significance is fishing, which is pursued both in the open sea and also in the bays. The principal role in this fishing is played by the catching of a type salmon, the omul (Coregonus omul Pall. or Coregonus migratorius), and of fish related to the omul: these fish constitute 58 percent to the catch. In second place are types of carp (22 percent), which are caught primarily in the lagoons and in neighboring lakes. Also the catch of seals, already mentioned, is not insignificant. In 1948 there were 1,380 animals caught. Fishing is pursued both by the state and also by fishing kolkhoz. The latter caught 68 percent of the total catch in 1949, while the state was

[1] [i.e. Lake Baykal -- Analyst]

the schools of salmon which regularly press up the river here in immense masses for the spawning period. 133 [136]

The vegetation of Kamchatka, under the influence of the heavier rainfall and the milder temperatures, has another stamp from 137 that of the forest landscapes along the coast of the Sea of Okhotsk, and in the southern part of the peninsula the vegetation even attains an extraordinarily luxuriant character. The bright, shining green of the deciduous trees dominates the picture, and only in the interior of the Kamchatka valley does the dark color of coniferous forests with Daur larch and silver firs appear. There is on Kamchatka no forest of the type of the Siberian taiga. The characteristic tree here is the birch, and in the first place is the stone birch (Betula ermani) with its gray to red bark. However, the birches never come together in thick stocks; rather they always preserve a certain distance from one another, thus giving rise to a kind of park landscape. Along with poplars, alders, and mountain ashes, the birch covers the entire area of the eastern coast. The landscape here is magnificent when the red fruits of the mountain ash glow out between the various greens in late summer. However, the growth of trees ends on the eastern slopes at a height of 300 meters in the north and at a height of 550 meters in the south. The all too great, cool dampness no longer permits the growth of trees. From the interior of the Kamchatka valley, however, the same birch forest rises to a height of 600 to 750 meters. In the underwood of these forests the Kamchatka honeysuckle (Lonicera edula) is especially worthy of note. Its black-brown fruit is collected in August in large quantities as food by the inhabitants. At heights of 300 to 550 meters the birch forest gives way to the already often mentioned bent wood vegetation, which is especially typical for the mountainous sections of Kamchatka. It consists here of a confusion of entwined branches of creeping alder, Siberian stonebirch, and mountain ash, between which individual rhododendron types grow. These bushes cover whole areas and slopes, and are often so matted that a path through them must be made with an axe, unless one wants to follow a bear path; for the bear has withdrawn into this thicket and is still preserved today in larger numbers. At approximately 800 meters this bush formation ends and is replaced by the zone of the Alpine flora, which generally 133 reaches up to a height of 1,400 meters. The glacier line on Kamchatka lies at a height of 1,500 to 1,700 meters, and thus most of the volcanos have a snow cap, many volcanos are half covered by snow caps, and the Klyuchevskaya Sopka even is covered two-thirds by snow caps.

132 December to the end of April shipping must be stopped completely as a consequence of the ice covering in the area of the islands. Even the most southerly island, Shikotan, is cut off from all traffic with the outside world during this period.

137 Because of the great stretch of the islands from north to south, vegetation on the Kurils has developed very differently. Of the 768 types of flora established to date on the Kurils, 257 have the base of their development in Japan, and only 45 have the base of their development in Kamchatka and the adjoining mainland. On the northern island tundra vegetation predominates with widely diffused bush covering of Pinus pumila, willow bushes and birch bushes. Trees can develop only in some few protected places. The central islands have the poorest vegetation: these islands mostly are also small and of lesser height, and thus the rawness of the cool sea current can have the strongest effect on them. The southern islands have a relatively rich vegetation. Here (Uruppu, Etorofu, Kunashiri, Shikotan) there already appear forests which are rich in wood and have trees with long trunks. In these forests firs (Picea jezoensis, Picea glehni) and the Sakhalin spruce (Abies sachalinensis) predominate. Mixed in with these trees are oaks (Quercus grosseserrata, Quercus /308/ dentata), beeches (Carpinus cordata), and other deciduous trees. In higher places and in the vicinity of the coast there appear meadow-like grass areas, which occasionally lend an Alpine note to the landscape picture.

• 136 Land animals are slight in terms of the number of types. The brown bear and the wolf are in relation to the distribution of the forests. Very numerous are foxes of all types.

The bird world is extraordinarily rich. In this respect the smaller islands above all are distinguished. Migratory birds are rare. They prefer the Salkhalin route for their wanderings. The real wealth of the Kurils are the fish and aquatic mammals, which undoubtedly are poor in terms of the number of types represented but appear in unusual quantities. Among the fish the same types of salmon should be named as were mentioned in the discussion of Kamchatka. Seals stand in first place among the sea mammals, but sea lions and whales also occur. The valuable sea otter has been almost completely exterminated.

161 The number of permanent inhabitants of the Kurils was around 13,000 before World War II; in the main they were Japanese. Kuril Ainu--the original inhabitants--numbered only several hundred. The

parts, Transbaykal has a generally regular shape. Numerous mountain 133
ridges traverse it in strikingly parallel strips from southwest to northeast. Extended mountain ridges and almost equally long valley depressions constitute the distinguishing features here, while the contrast between mountains extending irregularly and lowlands lying in between is characteristic of the Amur and Ussuri areas and also of the extreme northeast.

Transbaykal, lying between heavily forested, damp Siberia 133
and the dry steppe belt of upper Asia, forms a transition area in terms 137
of its landscape. The Mongolian steppes, which in strips are semi-wastelands, cross the border from the south and in long tongues stretch into the broad valley plains between the mountain ridges. In this fashion the steppes reach even Lake Baykal and form islands in the middle of the wooded area, for example on the Barguzin River and in the valley of the Upper Angara. On the other side the Siberian taiga presses in on mountain ridges far toward the south to the area around the upper course of the Onon and the Ingoda. Thus the Central Asiatic steppe and the north Asiatic continental forest penetrate into Transbaykal. There comes into being a magnificent forest steppe landscape. In the south the steppe predominates, but the farther north one goes the more the forest descends the slopes from the rounded-off mountain ridges until finally the forest fills the ever narrowing valleys. The steppe valleys gradually become grassy meadows, which finally turn into swampy valley meadows and even into swamp forest in the north.

The ground relief in Transbaykal, however, is not so varied 133
as would appear from first glance at the map. The valley plains lie generally 600 to 900 meters above sea level, and the ridges of the mountain chains are between 1,000 and 1,400 meters high, so that accordingly there is only a relatively slight difference in height. And even this is blurred by the fact that the slopes are contiguous and rise only very slowly and gradually. As a rule they show no strongly marked ridge but more often have a long, rounded ridge, indeed often in the form of a plateau. In this the predominant forest covering contributes to leveling the unevenness of the relief. Individual mountains, in their considerable absolute heights, extend beyond the tree line. Mostly there are roots, which have withstood the storms and which with their naked round forms project like bare skulls above the general /28/ thicket of trees. The appearance has brought to them the appropriate Russian name of "gol'tsy" (singular

height are greater; for in the Amur country the bottoms of the valleys sink to between 500 and 200 meters, while the mountain ridges still retain heights between 1,000 and 1,500 meters. The number of mountain ridges, which retain their rounded-off, plateau-like character with numerous "gol'tsy" /29/ set on them, decreases. Likewise there disappears the parallel lining up of the main chains in a northeastern direction, a trait which is so marked in Transbaykal. The main mountain chains in the Amur country, on the contrary, run predominantly from west to east, while others cross them almost at right angles. Thus, in contrast to Transbaykal, the geological features have greater dimensions here, where broad plains are inserted between the individual mountain chains, and toward the Amur these plains assume the character of low plains. The thickly settled Zeya-Bureya Plain should be mentioned first. But here too the corresponding traits appear which--apart from the mountains--are expressed in the main direction of the rivers and their valleys. A southwest-northeast direction (like Lake Baykal), such as occurs in the course of the Argun, the Selemdzha, the Bureya, and the lower course of the Amur, crosses a northwest-southeast direction, which appears most clearly in the middle course of the Amur and in the direction of the Gilyuy. Many rivers, such as the Zeya, follow first one direction and then the other.

The difference in the landscape from Transbaykal is great since the Pacific Ocean has a powerful effect on the Amur country which lies in the sphere of the east Asiatic monsoon. The nearness of the great continental mass, to be sure, brings harsh winters; but the summer is warm and brings at the same time heavier rainfall than in Transbaykal. Generally the annual rainfall is more than 500 millimeters, of which usually more than half falls in the three summer months of June, July, and August alone and brings forth a most luxurious plant growth. While in Transbaykal the valley areas remain free of tree growth because of the dryness, here there is excessive dampness, which makes it impossible for forests to thrive in the valleys, meadows and level areas. This excess of summer rain gives the landscape its special stamp. Swampy reed thickets along the rivers, broad meadowlands covered with high grass and lying on the higher plains, giving way to little woods on the dry hills, and on the slopes and ridges of the high mountain chains forest thickets often difficult to penetrate and, in contrast to the Siberian taiga, containing oaks and deciduous trees--these are typical of the entire Amur country.

The excess of dampness in vegetation season is a handicap

311 The excess of dampness in vegetation season is a handicap even for agriculture and makes difficult the extension of the cultivated areas. New land for cultivation must as a rule be won laboriously from nature by drying it out. More and more the extended Zeya-Bureya Plain and the area along the Amur have become quite thickly settled, and large parts of the famous "Amur [162] Prairie" have been transformed into cultivated land. It is predominantly Russians who live here. The Chinese who immigrated here earlier have been pushed back over the Amur--in part by force. In all the rest of the area, however, /30/ untamed nature dominates the landscape, which is traversed at most by a few Tungus or Russian hunters. A wealth of gold has lured numerous Russians into this 316 wasteland, too, especially in the area around the upper courses of the left tributaries of the Amur. A locally very active gold industry has come into existence, which today is organized by the state and which has drawn even this distant region into the economy.

133 The Ussuri country is divided into two completely different parts: the huge mountain mass of the Sikhote-Alin', which fills the entire area from the Bay of Peter the Great in the south to the mouth of the Amur in the north; and the Ussuri-Khanka lowlands, which extend west of the Sikhote-Alin' in the same direction and continue south of the Khanka Lake without marked interruption as far as the Bay of Peter the Great.

The Sikhote-Alin' is a forest-covered, strongly valleyed /zertaltes/ mountain mass, which is divided into several ridges running parallel to the coast. The shapes of the mountains are soft without especially marked edges and projections. More often plateau-like shapes predominate here, too. The heights in general lie between 650 and 850 meters; the valleys, however, are deeply carved out. Rising slowly from the west, the mountain mass descends steeply to the sea and only rarely leaves free a narrow coastal indentation plain on which there arises small, poverty-stricken fishing villages. The nearness of the sea crossed by a cold stream causes a cool, foggy, rainy, unfriendly summer, thus producing similar conditions to those found on the entire coast extending to the north beyond Okhotsk. Swampy valleys and forests dripping with a cool dampness and with a more northern stamp are typical marks of this area.

132 The western side of the Sikhote-Alin' and the Ussuri-Khanka lowlands, on the other hand, correspond more to the Amur •137 country. Warm to hot summers joined with high rainfall and a

strong inclination to marshiness are distinguishing marks for this area. 132, 137
The Sikhote-Alin' stretching parallel to the coast keeps back the coolness and also the fog from the sea and allows the sun to have a stronger effect. Everywhere the more southerly position makes itself apparent. In the forests of Sikhote-Alin' deciduous trees appear more and more in the foreground, increasing toward the south, until finally, in magnificent specimens, they form the sole type of tree.
n the cultivated zone, too, which stretches along the entire lowlands, 311
typically Manchurian-Chinese plants become noticeable in increasing [241]
measure toward the south. Kaoliang and other millet, soya beans, and rice appear noticeably on the scene. There is a change in the 162
population, too. In the northern part of the lowlands, as far as Khanka Lake, Russians and Ukranians predominate; in the extreme south, Chinese and Koreans are in the majority. The Ussuri-Khanka lowland is relatively thickly settled, the Sikhote-Alin' itself, on the [316]
contrary, is in large areas as good as uninhabited, except for some mining areas in the south, where /31/ coal primarily is mined. Native Tungus traverse the Sikhote-Alin' in smaller numbers than in the old days, and in addition there are Russian hunters and Chinese collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional 131
direction. The southern part is traversed by two parallel mountain ridges, which are separated from one another by a relatively wide depression. The eastern mountain chain is shorter but higher, and its peak of 2,013 meters is the highest elevation on the island. Toward the north the mountain ridges flatten out and give way to a hilly plain. The cool, foggy air masses blow unhampered over the land here, while in the south a difference in climate is caused by the mountain chains. The eastern slopes are cool, rainy and unfriendly, while the western side appears somewhat milder. The southern parts of the island, which were Japanese from 1905 to 1945 and only now have again become Russian , are generally more favorable. In terms of its landscape, Sakhalin can be designated a damp, cool, forested mountain country, but in numerous places treeless moss steppes appear, which recall the tundras of the north. Once feared as a Russian prisoners' colony, Sakhalin is advancing economically more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encom- 133
passes, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina Bay in the extreme northeast. In the western part, which stretches

133 from the Uda Bay approximately to the harbor of Okhotsk, the mountainous rampart of the Dzhugdzhur runs parallel to the coast, to which the mountain descends steeply and abruptly. Only seldom does a narrow coastal margin offer an opportunity for establishing a fishing settlement. The way from the coast into the interior of the land is extremely difficult, for only narrow river valleys, etched out like ravines, are available for this: these rivers hasten over their short course into the sea from the ridges of the mountain rampart. For this reason Ayan, the sole harbor on this coast, can't develop. Only near Okhotsk does the foreland broaden into a coastal plain and offer easier routes into the interior of the land. The eastern part of the coastal region from Okhotsk to Penzhina Bay is, on the other hand, very much broken up and has numerous peninsulas and off-shore islands. Here the spurs of various mountains run into the coast almost at right angles, and in between extended, gently rising valley areas extend into the interior. The manifoldness of the formations is increased more by a mountain chain which, running parallel to the coast, appears only in the peninsulas. In terms of its landscape the coastal area presents the same face everywhere. Thick forests cover
133 the slopes and fill the deeply cut-out valleys of the numerous rivers
● 137 and brooks, most of which are short and which flow into the sea. On the higher tops and mountain ramparts, however, tree growth can no longer develop. Crippled shrubs or /32/ more often moss blankets cover these areas, while the highest projections, like bare gol'tsy, extend beyond the vegetation line.

From the northeastern end of Penzhina Bay a broad lowland extends to the northeast into the interior of the land and continues into the Anadyr' lowland, interrupted only by a narrow watershed-crossbar, which is at most 500 meters high. The Anadyr' lowland opens to the east on the Bering Sea. Both the Penzhina and also the Anadyr' lowlands are very much broken up by numerous mountain and hill ridges projecting into the lowlands. In terms of landscape they both have the same stamp. In the higher areas between rivers broad moss tundras cover the land. However, large poplar forests extend to the rivers, and these forests turn into fir-pine forests in the mountainous border areas beyond the upper courses of the rivers. In general one can consider the landscape to be a wooded tundra.

133 In the north the Anadyr' area is adjacent to the Chukchi Peninsula. Although the peninsula's coasts are very well explored, its interior is still fairly unknown. Two rubble-covered mountain

chains traverse it from west to east, and these mountain chains with their spurs in part reach the coast, where they break off sharply. But this area also does not lack plains, for plains extend from the coast into the land on both sides of the rivers. 133

All these areas[1] are either very little settled or are completely uninhabited. Of the Russian coastal settlements only Okhotsk and Magadan as harbors have a certain importance. Worthy of note is the reindeer breeding of the Chukchee on the peninsula named after them. 311

South of the Anadyr' lowland rises the Koryak Range, which fills the entire area as far as Korff Bay. Some mountain ridges, only a little separated from one another, traverse the land in a wide arc from the southern end of the Anadyr' Bay in the direction of the Kamchatka Mountains. Only near the coast have the rivers dug out deep valleys; here forest growth appears, while the high areas and the ridges are covered by pure tundra. 133 [137].

The coast of the Bering Sea has numerous native and Russian fishing settlements; the hinterland, on the other hand, is occupied only by small Paleoasiatic remnant peoples, who pursue reindeer breeding. [361]

Kamchatka Peninsula is one of the most interesting regions in the Soviet Russian Far East. The relief, which just like Sakhalin gets its main characteristics from two mountain ridges, is extraordinarily varied, for numerous young volcanos are set on the mountain ridges, and a number of these volcanos are still active. The Klyuchevskaya Sopka, the highest volcano on the peninsula, rises from the valley of the Kamchatka River to a height of 4,775 meters and makes an imposing picture with its ice-capped peak. Because of the abundant rainfall and the mild climate, the plant covering of the peninsula is very luxurious. On the outer mountain slopes deciduous forests predominate, only /33/ in the interior of the peninsula do fir-pine forests appear. The only exception on a larger scale is the west coast, on which tundra-like moss steppes have developed. In addition to numerous Russians who occupy primarily the coastal fishing villages, the Paleoasiatic Koryak and Kamchadal have remained in the interior. 137 162 361

The volcano belt of Kamchatka continues toward the south in the island chain of the Kurils, which after World War II went to the Soviet Union along with the southern half of Sakhalin Island. 133

1 [i.e. the Okhotsk coastal area and the Anadyr' area -- Analyst]

132 Ulan-Ude. As a consequence of the slow change in temperature of the water in Lake Baykal, the extreme months are postponed--all remarkable signs, which are reminiscent of an oceanic climate.

Within Transbaykal the Yablonovyy Range forms a climatic dividing line, which is expressed less in the meteorological data than in the plant covering which reflects the entire climatic conditions far better than the best instruments can record them. East of the [37] Yablonovyy Ridge deciduous trees appear in larger numbers. This shows, therefore, that the influence of the East Asiatic monsoon extends as far as here, and this is also confirmed by observation of the frequency of the change in wind directions. While in Ulan-Ude northwest and north winds rule absolutely the entire year, the frequency of these wind directions decreases significantly in the summer in Nerchinsk, where northeast and east winds appear above all.

The remaining regions of the Far East, as has already been said, stand in their climatic conditions in almost complete dependence on the seasonal change in air streams. The winter land winds bring down to the coast a high degree of coldness connected with dryness. But the summer sea winds, too, are disproportionately cool. In this connection the eastern border seas play a very disadvantageous role for the entire Far Eastern coast. The Sea of Okhotsk should be mentioned here in first place. It is a mighty cold water basin and is with justice designated the "ice cellar of east Siberia." The Kuril barrier hinders an exchange of water with the open ocean, and accordingly the water in the Sea of Okhotsk remains disproportionately cool (10°) even in summer under the continuing influence of the winter cooling-off by the surrounding land masses. In addition there is a cold ocean stream which stretches from north to south along the coast and even in summer carries great ice floes toward the south, /61//Map of the Reduced Mean Temperatures for the Month of January:/ /62/ where piled-up ice can be encountered even in July and August in the region of the Shantar Islands. In the Bering Sea and in the Sea of Japan, too, cold ocean streams move along the coast toward the south and lower the summer air temperatures not only through the water's own coolness but also through the formation of fog, which is a typical phenomenon for wide areas on the Far Eastern coast. Thus the general disadvantage of the east side of northern continents is especially marked here in the Soviet Russian Far East. Vladivostok (43° 07'N latitude) has the same July temperature as Moscow (55° 56'N latitude). Vladivostok lies at the same latitude as Nice but has a mean temperature for January of

-15.1° versus Nice's of 8.0°, and in July Vladivostok's temperature is 18.9° versus 23.2° in Nice. This disadvantage of the Soviet Far Eastern coast is shown especially forcefully if it is compared with the climatic conditions on the western coast of North America: 132

Mean Temperatures of the Soviet Far Eastern Coast and of the North American West Coast in Degrees Centigrade

Place	Latitude	Annual Mean	Coldest Month	Warmest Month	Annual Variation
Ayan	56°03'	- 3.9°	- 20.4°	12.4°	32.8°
Sitka	57°01'	+ 5.3°	- 1.0°	12.6°	13.6°
Nikolayevsk	53°02'	- 2.3°	- 23.4°	16.8°	40.2°
Tongass	54°08'	+ 8.1°	+ 1.1°	15.1°	14.0°
Vladivostok	43°02'	+ 4.3°	- 15.1°	20.8°	35.9°
Umqua *	43°07'	+ 11.4°	+ 6.8°	15.5°	18.7°

*/sic: probably is the Umpqua River in Oregon, which lies at this latitude/

The unfriendly influence of the Sea of Okhotsk, however, is limited more to the coastline since the mountain chains running parallel to the coast prevent a further penetration into the interior of the land, and accordingly the warm summer sun has more effect. As a result of this the division into climate areas on the coast is in contrast to the other climate areas.

The Amur-Ussuri Climate Province lies more landwards and comprises the region of the middle and lower Amur and the valley of the Ussuri. The Sikhote-Alin' and the Bureya Mountain Ranges protect these regions in the summer from the foggy and damp-cool air masses of the sea. Instead warm and damp winds coming from the southeast and south move over the broad plains of Manchuria and beyond the Amur to the north and effect a warm and damp summer in contrast to the continental harsh and dry winter.

The favorable conditions of this climate region[1] are expressed strikingly in the vegetation, which is characterized by the appearance of deciduous trees such as oaks, elms, lindens, and other, trees which are lacking in all of Siberia and also in Transbaykal and on the coastal edge. [137]

The annual rainfall exceeds 500 millimeters in the entire area but understandably decreases from the coast toward the interior

/63//Map of Mean Annual Rainfall:/ /64/ Thus Bikin

1[i.e. the Amur-Ussuri region -- Analyst]

132 within 24 hours. These conditions, especially the paths of the cyclones, have still not been clarified in detail. The real rain period does not begin until early in July and lasts until the end of August. During this period there is rarely a week without several days of rain.

In addition to the already mentioned downpours, rainfall also occurs in the form of land rains. A very characteristic type has been designated as "subsequent rain" /Nachfolgeregen/ by Arseniev. This occurs when after a storm the day is sunny and still, and then in the evening rain falls again because of the condensation of the rising, very high humidity.

The abundant rainfall of summer causes the rivers to swell, and their high water occasionally spills over the banks, and often interrupts all traffic. In many places the water cannot flow off right away. It remains standing on the level fields. Grass areas turn into swamps. In the low, broad plains on the left side of the Amur, above [312] Khabarovsk, plains which were supposed to have been won for agriculture to supply the rapidly growing city, a large-scale system of drainage canals had to be created, not only in order to drain the ground but also in order to give the rainfall an easier opportunity to drain.

132 The great dampness along with the great heat endangers and decreases 241 the harvest of European types of grain. The grain shoots into grass but the corn yield is slight. The sprouting of the plants suffers from the dryness, while the blooming, ripening, and harvesting fall in the rain period. In this the dampness of the ground /66/Climate Diagram: Ulan Ude; Chita/ also plays a role, for, according to many reports, the yield of the grain fields in the hilly country on the mountain ridges and slopes is higher than the yield of the fields in the valley areas. The softening of the ground by the summer rains makes the use of machinery difficult, and this appeared as a restraining factor in the establishment of the kolkhoz system and the MTS (Machine Tractor Stations). In part steps had to be taken toward the construction of new machines. On the other hand

132 the climate fosters the development of vermin and fungus. The corns of grain are not uncommonly attacked by a spore fungus (Fusareum •137 roseum), which makes the bread "pianyi," i.e. drunken, as the Russians say, because when eaten it has an intoxicating effect and causes nausea. Fruit is distinguished by richness in liquid but by a poverty of sugar. The Manchurian-Chinese cultivated plants and the natural native plant world thrive especially. Characteristic for the forests is a rich underwood, but the trees--and this applies especially to the deciduous trees--are very susceptible to disease, often becoming hollow with internal

132 rot, and they are generally short lived. The usual leather boots are
137 scarcely to be used when going into the summer-damp woods, since they soften up in the damp ground covering and disintegrate.

132 The best time of the year is autumn, lasting through September October. It no longer rains. The sun shines brightly from a blue sky and in the almost complete calm emits an agreeable, bearable warmth. Once the frost comes, it lasts through the entire winter. It is seldom interrupted by a spell of thaw. The great dryness of the air is remarkable, even snow often evaporates.

/67/ /Climate Diagram: Blagoveshchensk; Vladivostok./

The coastal climate dominates the entire coastal strip from Vladivostok in the south to the north beyond Okhotsk. Because of the coastal strip's variations in width there are climatic variations between individual sections, but only in a gradual sense. It is useful, however, to divide the area in two, and to treat the southern coastal area separately from that of the north.

To the southern coastal area belongs the area from Vladivostok to the mouth of the Amur River. The hinterland is occupied in its entirety by the Sikhote-Alin'. Its principal chain acts as a climatic dividing line in summer and in winter. Despite the proximity of the ocean, the winter on the coast is marked by continental severity. It is more severe in the north, where a solid sheet of ice is formed between the mainland and Sakhalin Island, than in the south, where only a thin crust of floating ice is formed at the coastline. The entire coastal strip is subject to the cold, continental air masses pushing toward the sea. Nevertheless, temperatures on the coast are not as low as west of the Sikhote-Alin'. For one thing, the masses of air are forced down on their way to the sea, and this causes the temperature of the air to rise. Then there are also in-blowing winds, coming from the open sea, blowing even in winter, which contribute to the raising of the average temperature. In contrast to the winters, the summers of the coastal area show the characteristic traits of a maritime climate. The cool masses of air blowing inland from the sea are further cooled by the cold coastal current and contribute considerably to the lowering of temperatures in the coastal area, whereas to the west of the Sikhote-Alin', the influence of the sea on air temperatures is hardly perceptible anymore. The extent /68/ /Climatic Diagram: Okhost; Petropavlovsk/to whichthe Sikhote-Alin' acts as a climatic dividing line in relation to temperatures is demonstrated in the contrasts between the two localities Ol'ga and Voroshilov (formerly Nikolsk Ussuriyskiy), both on

132 tinental cold air front forces the paths of the cyclones toward the south and southeast, and accordingly their activity is limited more to Korea and the eastern part of the Sea of Japan and scarcely touches the Soviet areas.

The World of Plants

• 137 The vegetation, too, can be divided according to the climatic provinces. However, here the vegetation has not shaped special formations of its own, but rather has a general transitional character. In Transbaykal the Siberian taiga turns into the Mongolian steppe vegetation, and on the Amur and Ussuri typically Manchurian plants extend beyond these rivers and intermix with representatives of the Siberian evergreen woods. Only in the region of the coastal climate have some special forms of the plant world developed which are peculiar to this region alone.

/94/ In Transbaykal the steppe vegetation penetrates very far toward the north. Often it appears in islands in the middle of closed forest regions. In the valley of the Upper Angara we find feather grass (Stipa pennata) and fescue grass /Schafschwingel/ (Festuca ovina) as typical representatives on the southern slopes, while the northern slopes are covered with thick larch and pine forests. In the valley of the Barguzin feather grass and artemisia steppes are spread out not far from one another. Also the well-known Nerchinsk Steppe, better designated, however, as a forest steppe, is an island closed off in itself and approximately 100 kilometers long and just as wide. In general the character of a meadow steppe predominantes here, but in lower areas salt ground appears with numerous xerophilous plants. The steppe, however, attains its greatest area, here closed off, in the southeast between the upper courses of the Argun and of the Onon. This Argun Steppe begins in the north as a meadow steppe and turns toward the south into an artemisia steppe, which already gives the impression of being a semiwasteland. West of the Onon the pure steppe appears only in spots, and only in the Selenga area does it have a significant size. Here, between Novo-Selenginsk and Troitskosavsk /now: Kyakhta/ lie alluvial sands, which are often laid bare and which show an almost wasteland character with wandering dunes /Wanderdünen/ and inlaid Salzpfanne /salt pans/.

The ground relief is of decisive importance in determining the extent of the forms of vegetation in detail. The steppes as a rule re-

main in the valley areas at a height from 500 to 900 meters. Adjoining them are the forested steppes up to 1,200 meters, consisting predominantly of birches. Here thick forests with evergreen trees begin. In south Transbaykal the upper timber line lies at a height of 1,700 meters to 1,900 meters; in the raw north, however, it lies significantly lower. There the forest often ends already at 1,200 meters; but, on the other hand, it goes down farther, and on the northern slopes it penetrates to the banks of Lake Baykal.

The forests west of the Yablonovyy Ridge consist of the same types of trees as appear in all of east Siberia. The Daur larch /Daurische Lärche/ (Larix dahurica) is the principal tree. Associated with it is the Siberian cedar or Siberian stonepine (Pinus cembra), which in higher places even exceeds the larch. The Daur larch appears also with the pine (Pinus silvestris) on drier, sandy ground. The Siberian spruce (Picea obovata) and the Siberian fir (Abies sibirica), on the other hand, appear more rarely. The Siberian larch appears only in a small area west of the Selenga. How much the vegetation is influenced by the height of the land is shown by the 2,508-meter high Sokhondo just on the Mongolian border. Here the forests begin at a height of 1,200 meters and extend up to 1,900 meters, and consist of the same types of Siberian trees mentioned above. In one thing, however, the Transbaykal forests differ from the Siberian: in the thicker underbrush, which consists principally of rhododendron and bush birch /Strauchbirke/ (Betula Middendorffi).

/95/ Above the forest line a peculiar bent wood vegetation /Krummholzvegetation/ sets in, which is extremely characteristic not only of these high areas in Transbaykal but also of all the other regions. Principally represented here are the dwarf pine (Pinus pumila), the dwarf birch (Betula Middendorfii morphe alpina), the Cassiope (Cassiope ericoides), rhododendron (R. chrysanthum), and a dwarf form of the Daur larch (Larix Daurica var. pumila). This bush formation, which can be as high as 3 meters, is so overgrown and matted that it seems impossible to penetrate it.

An Alpine meadow region is lacking in Transbaykal. Mosses and lichens go from the bush vegetation as a rule right to the bare stone of the Gol'tsy.

East of the Yablonovyy Ridge the forests generally retain the same character as in the west; however, here the first deciduous trees appear as harbingers of the more temperate zones of east Asia: thus oaks, elms, and apple trees appear here. For the Russians, who missed

137 deciduous trees on the long way to the east from the Urals and who saw them again here for the first time, this sight may have been a true joy: accordingly they named the mountain ridge on which they first encountered wild apple trees, the Yablonovyy Khrebet, i.e., "Apple Mountain Range."

The forests of the real Far Eastern regions consist of three main elements: the east Siberian, the Okhotsk, and the Manchurian. The east Siberian element is represented by Daur larch. The Ayan spruce /Ajan-Fichte/ (Picea ajanensis), the stone birch /Steinbirke/ (Betyla ermani), and the fir with the white bark (Abies nephrolepis) are characteristic of the Okhotsk type of forest. This type of forest is limited to the damp-cool coastal region. In the basins of the middle Amur and of the Ussuri and in the southern Sikhote-Alin' we find the third type, the Manchurian, which is distinguished by a wealth of deciduous trees--oaks, maples, ashes, lindens, and others--and by an abundance of types of trees.

The mild climate of the Amur-Ussuri region already allows the broad-leafed deciduous trees to come into the foreground in the vegetation picture; indeed, in wide sections, these trees even attain predominance.

From the northern arc of the Amur, the east Siberian taiga entering here gradually changes its face toward the east, and becomes a mixed forest in which, at Blagoveshchensk, deciduous trees already outnumber the others. The oak (Quercus mongolica) should be mentioned as a characteristic tree, and soon lindens (Tilia amurensis and Tilia mandschurica) accompany it, as well as maples (Acer ginnala), and numerous other deciduous trees. Also a similar change takes place from the Stanovoy Ridge south to the Amur. The pine (Pinus silvestris), the most loyal tree of north Eurasia, which asserts itself from Europe to the Sea of Okhotsk, despite all differences in climate, finds its outer limit on the lower Amur. Likewise /96/ the Siberian spruce (Picea excelsa obovata), a variety of the European Picea excelsa, finds its extreme eastern limit here.

Characteristic of the deciduous forest areas of the Amur country is the Lespedeza (Lespedeza bicolor), which often covers all the ground in clearings or in burned-off areas. Although not as nourishing as lucerne /alfalfa/, it nevertheless constitutes an excellent food for livestock. On the Amur and especially in the Zeya-Bureya Plain there are extensive grass lands, which are also designated the "Amur Prairies." Near the rivers blue grass (Calamagrostis Langsdorffi) pre-

dominates. However, steppe elements also appear on these plains,--137
steppe animals as well as plants--for example the typical steppe grass Stipa capillata and the Nager Suslik (Citellus Eversmanni jacutensis). In swampy river valleys, especially on the Bureya, there are swamp forests consisting of poplars (Populus suaveolens), lindens (Tilia cordata amurensis), the Manchurian nut tree (Juglans mandschurica), and others. These flood forests are distinguished by an extraordinarily thick and peculiar underwood with numerous climbing plants. Of these, special mention should be made of the mighty Manchurian wine grape (Vitis amurensis) which grows in the Amur area as far as 51° North and as far as the Zeya on the west. The stem of this plant is up to 15 centimeters thick; its sweet black grapes are collected by the population and used to make wine or marmalade.

In the Ussuri country the vegetation puts on a completely Manchurian face. In contrast to the Siberian taiga which has only a few types of trees, here the extraordinary multiplicity of the plant world surprises the explorer. Komarov points to 64 types of trees, 79 types of bushes and 15 types of lianas here. It may be of great significance that these regions never experienceed an Ice Age, and accordingly representatives of Tertiary flora have been able to remain until today. In the Ussuri depression and in the valleys of the southern Sikhote-Alin' deciduous trees completely dominate the field. In the south, Korean and Japanese types of trees join with the Manchurian types. In addition to the deciduous trees already mentioned, the following can be mentioned as characteristic: the following types of maple--Acer barbinerve, Acer mono, Acer tegmentosum, Acer ukurunduense; the alders--Alnus fruticosa, Alnus japonica, Alnus incana; the pear trees--Pirus ussuriensis and Pirus sinensis; the mountain-ashes--Sorbus aucuparia, Sorbus sambucifolia; and the Amur elder, Syringa amurensis. Worthy of mention are the east Asiatic cork tree (Phellodendron amurensis), with its peculiarly soft bark, the white walnut (Aralia mandschurica), and the palm-like dimorphic plant (Dimorphantus mandschuricus).

In the higher regions of the Sikhote-Alin', on the other hand, coniferous trees again step into the foreground. The Daur larch appears everywhere. Appearing anew are the Manchurian cedar (Pinus mandschurica), which is concentrated more on the coasts, the spruce (Pinus funebris), and, on the east coast, the Olga larch (Larix Olgae). The 20-meter tall yew tree also /97/ appears occasionally (Taxus cuspidata). Junipers are to be found everywhere, and in higher regions they often cover whole areas with a creeping type of juniper (Juniperus

137 daurica). In the Sikhote-Alin' the three types of Far Eastern forests often meet in a tight area. The Manchurian element fills the valleys and slopes but never extends beyond 750 to 1,000 meters above sea level; following this element is the Okhotsk taiga, and following this in turn is the Siberian type with the Larix dahurica /Daur larch/. The heavy rainfall and the great warmth in the southern part of the Ussuri region give the water plants especially favorable opportunities to develop. Therefore there flourishes here also the lotus flower (Nelumbo speciosa), the Brasenia (Brasenia purpurea), which also spread into Europe in the Pre-Quarternary period, the water nut /Wassernuss/ (Trapa incisa), and in some places the water rose /Wasserrose/, Euryale fevox, whose great leaves attain a diameter of up to 130 centimeters.

In contrast to the Amur-Ussuri country, the vegetation of the coastal area shows a different, more sharply drawn picture. The hardy and perennial Daur larch, which penetrates to the Polar tree line in northeast Siberia and extends toward the south as far as into the Sikhote-Alin', avoids in a remarkable fashion the sea coast of the east with its damp and cool winds and appears first at some distance from the coast. The entire coastal country, therefore, is taken up by a special type of conifer forest, the Okhotsk taiga. There are mostly spruces, firs, and birches, which here grow thickly on the slopes to the sea coast. The typical trees are the types already mentioned: Ayan spruces, stone birches /Steinbirke/, firs with white bark. The Okhotsk taiga spreads along the coast of the sea by the same name, but it also takes in the area around the mouth of the Amur, and also dominates the part of the northern Sikhote-Alin' inclined toward the coast. It is, therefore, especially suited to the raw coastal climate. The mighty sea winds, however, do not permit a continuous extention of this taiga. Thus it covers above all the slopes and valleys, where it develops an extraordinarily thick growth which is difficult to penetrate. Toward the mountain ridges this taiga gives way very quickly to the usual bent wood /Krummholz/ vegetation, and adjoining this in turn is a moss and lichen formation, which covers the bulk of the ridges exposed to the winds and serves as an excellent summer meadow for the reindeer breeders. In the Dzhugdzhur almost all the passes which lead from the coast into the interior lie above the timber line, and this hampers their usefulness, especially in winter.

Kamchatka's vegetation picture corresponds generally to the Okhotsk type but it is changed somewhat by the milder climate and the relief. The stone birch /Steinbirke/ (Betula ermani) is the typical

tree here, being completely dominant on all the slopes inclined toward the sea--both the Sea of Okhotsk and the Bering Sea; accordingly there is an overwhelming impression of a forest of deciduous trees. Only in the interior, where the continental climatic traits predominate, is the /98/ east Siberian taiga with the Daur larch preserved under the protection of the two mountain ridges. The higher mountains projecting beyond the tree line are again covered with a bent wood vegetation /Krummholzvegetation/, which is especially thick on Kamchatka and which often makes wide areas almost impenetrable. Along the west coast a tundra-like moss steppe has developed, which covers the northern part of the peninsula across from west to east. In contrast to the conditions which become more unfavorable toward the north, the vegetation increases toward the south both in abundance of growth and in types. Worthy of note is the appearance here of the Japanese birch (Betula japonica) and of numerous higher types of grass, such as Heracleum tanatum and Heracleum dulce, and the wide diffusion of the bear root /Bärenwurzel/ (Angelica ursina), which becomes up to three meters tall. The appearance of extended forest meadows in the southern part of the peninsula has also caused the introduction of cattle breeding. 137

The regions of the extreme northeast can generally be designated as tundra or forest tundra.

The World of Animals

Following the pattern of the natural vegetation set-up, the animal world has the same juxtaposition of the most varying forms. East Asiatic and Inner Asiatic types join with the Siberian types. In the land once famous for its wealth of wild animals, an unbelievably rapacious economy /Raubwirtschaft/ has either destroyed the useful wild animals or driven them into inaccessible regions. Nevertheless, the regions still little touched by man are extraordinarily great, and there the animals have been able to preserve themselves in all freedom and in great numbers. 136

Numerous rodents, which are especially characteristic of steppe regions, are native to the forest steppes and steppes of Transbaykal: for example, the "suslik," the ground squirrel (Citellus Eversmanni and Citellus dauricus); the "tarbagan," a type of woodchuck (Arctomys bobak), the earth hare or jumping hare /Erd- oder Springhase/ (Alactaga saltator mongolica), and others. Larger steppe animals,

311 Approximately 65 percent of the forests consist of wood ready
137 for cutting, i.e. the trees are over 100 years old. These and the above figures should be regarded as only estimates; for a large part of the forested area has neither been investigated nor has a count of the supply in the forests been made. What large tasks are still to be resolved here and also in the other Far Eastern regions is shown by the figure given by V.F. Panayev for the year 1936: he said that at the time only 18.4 percent of the total forested area in the Buryat Mongol ASSR had been explored. (12)

12. Problemy Buriat-Mongolskoi ASSR /Problems of the Buryat-Mongol ASSR/, Works of the First Conference for Exploring the Productive Powers of the Buryat-Mongol ASSR, 2 vols., (Moscow-Leningrad, 1935-36), Vol. II.

313 The use of the wood is determined in terms of area by the development of transportation. The exploitation of the forests is limited to the area of the Selenga and its tributaries, which carry down the cut wood for the most part to Ulan-Ude or Il'inskoye for processing. The forests are also exploited in the regions near the shores of Lake Baykal, where wood processing industries have arisen at the mouths of the Barguzin and of the Upper Angara. The most important plant in this area is in Mysovsk /now: Babushkin/, where a great lumber works with sixteen saw sashes is situated /saw frame/. The railroads should also be mentioned as the last supplying line for exploiting /171/ the forests, while all the remote forests still remain in their natural state.

311 In Chita Oblast the forest conditions are similar, but here the
313 percentage of actual forest is somewhat greater than in the Buryat-Mongol ASSR. The exploitation of the forests is limited to the regions near the railroad and to the areas neighboring on the Amur and its tributaries. The main processing centers are Chita, Khokhotuy, and Bada.

311 The percentage of forested areas in the other Far Eastern regions appears slight, being 37 percent for the forested areas and 21 percent for areas actually stocked with trees. This is explained by the fact that to these regions also belong the areas of the northeast, such as the Chukchi and Koryak peninsulas, the Okhotsk coastal area, and Kamchakta, which in part are completely without forests or have only slight forests. This is also explained by the great difference between the general forest potential (104.2 million hectares) and the area stocked with forest

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Region	Forest Area in millions of hectares	Percent of the total area	Area stocked with forests in millions of hectares	Percent of the total area
Buryat-Mongol ASSR	28.7	84	18.7	57
Chita Oblast	57.6	80	43,2	60
Far Eastern Regions	104.2	37	58.9	21
	180.5		120.8	
USSR	956.3	44	484.2	23

/170/ Transbaykal can be designated as rich in forests although it includes extensive steppes. The forest area or the forest potential, as the Russians designate it, is given at 28.7 million hectares (1936) in the Buryat Mongol ASSR; thus the wooded area covers more than 84 percent of the total area of this republic. However, this total figure of 28.7 million hectares (100 percent) also includes the pastures and meadows closed in by forests (6 percent), and, in addition, the swamps, the bare peaks of the gol'tsy, and boulder areas little grown up (13 percent), and thus only 23.3 million hectares (81 percent) remain for forests themselves. Of this, again, only 18.7 million hectares (65 percent) are stocked with forest, i.e. real, tall forests. Burned areas, windfallen trees, and other things account for the significant difference between the two last figures. These figures show the actual conditions, indicating how one must view in their individual parts the areas designated as general forest potential in the statistical information. These figures also serve at the same time to explain the above table. The percentage of forest is largest in the northern areas, especially in the mountains which surround Lake Baykal, and it is smallest in the south, especially in the area around Kyakhta.

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According to types of trees, the stocked wooded areas are divided as follows:

Conifers:	93 %, with	larches	47 %
		pines	24 %
		cembra pines	16 %
		spruces, firs	6 %
Deciduous trees:	7 %, principally birches, aspen, poplars, and others		7 %

(58.9 million hectares). If we set the general forest potential at 100 percent, then, according to the Atlas of Sources of Energy in the USSR, there should be subtracted from this 1.1 percent for meadows and pastures (1.1 million hectares), 24.7 percent for swamps, bare rock, and boulder slopes which are only slightly grown over (25.8 million hectares), 17.7 percent for bush growth areas, burned areas, windfallen trees, and other (18.4 million hectares), and thus 56.5 percent (58.9 million hectares) remain for the areas stocked with forests. 311

The bulk of the forests are thus divided between the south, i.e., the Amur and Ussuri regions, and the Maritime Krai. This is of very great economic importance, because these forests are thereby closer to the reach of man. In these areas the percentage of forests to the total area is also much greater than the general average. Thus, for example, the percentage of forest land in Khabarovsk Oblast is 66 percent, in the Maritime Krai it is 51 percent, and in the Amur Oblast it is 37 percent. The Oblast of the Lower Amur (28 percent) and the Zeya area (25 percent) have the smallest percentage of forest area here. Sakhalin is among the areas richest in forests. In northern Sakhalin the percentage of forest area is 66 percent, and in southern Sakhalin which was formerly Japanese, it even reaches 85 percent (2.9 million hectares).

The stocked forest areas (not including southern Sakhalin) are divided among the various types of trees as follows: 311 137

Conifers:	84 %, with	larches	36 %
		spruces	27 %
		cembra-pines	12 %
		pines	8 %
		firs	1 %
Deciduous trees:	16%, with	birches	9 %
		oaks	4 %
		lindens	2 %
		ashes, aspens	1 %

The deciduous trees in particular increase toward the south, and accordingly, in comparison with the general averages given in the above table, the percentage of valuable deciduous trees in the Ussuri region and in the southern part of the Maritime Krai is much larger.

The supply of wood in the Far Eastern forests is also larger in comparison with Transbaykal, for in the Far East 70 percent to 80 percent of the trees are ready to be cut down. The total wood supply in the

forests here is estimated to be 6.5 billion cubic meters, of which 5.4 billion cubic meters consist of coniferous wood.

The entire river network of the Amur, with its numerous tributaries which are navigable by ships and rafts, facilitates the exploitation of the forests, and accordingly a significant wood industry has been able to develop in the Amur and Ussuri regions. Khabarovsk and the surroundings are regarded as the base of this industry. From there the bulk of the wood-processing industry extends to the south, following the leading line of the Ussuri and always lying on the tributaries of the Ussuri. Here, from north to south, lie the wood centers of Khor, Dormidontovka, Bikin, Lesopil'nyoye, Lesozavodsk, and Vladimirovka. Another base for the wood industry is formed by Vladivostok and its environs with the towns of Okeanskaya, Shkotovo, Lukyanovka, and Tigrovka. Sovyetskaya Gavan' has very recently become the most important wood-processing center on the coast of the Sea of Japan. Komsomol'sk has received a large works for producing cellulose and paper. Aleksandrovsk on Sakhalin and Petropavlovsk on Kamchatka have in the last few years also been equipped with wood-processing plants.

The total amount of wood cut has increased significantly in comparison with the period before World War II. According to careful estimates, the amount of wood cut during the year of 1952 can be assumed to be 5 million cubic meters in the Buryat-Mongol ASSR, 6 million cubic meters in Chita Oblast, and 30 million cubic meters in the other Far Eastern regions. Considering all the circumstances, this estimate is more likely to be too low than too high.

The Soviet Union has acquired an important supplement to its wood economy by its acquisition of southern Sakhalin. The Japanese had built up an excellent wood industry, which before the war consisted of 68 saw mills and 11 large cellulose and paper factories. Karafuto exported annually to Japan more than 1.2 million cubic meters of wood and many times the value of this wood in cellulose and paper. What importance the wood-processing industry had for the economy as a whole is indicated by the industry's share, in terms of value, in the total production of Karafuto. The share of industry in Karafuto's production was approximately 60 percent, and of this 60 percent the cellulose and paper factories alone provided around 90 percent, and the entire wood-processing industry 92 percent. All this now stands at the disposal of the Soviet Union.

133 Transbaykal/. Material for Doing Research on the Ground in Asiatic Russia. Moscow, 1927.

flat steps, heaped up on one another; they appear easy to climb from the south but break off sharply toward Baykal. However, sharp ridges and pointed, pyramid-shaped mountains appear in the western part, especially in the area of the upper course of the Temnik and the Snezhnaya. Here also lie /211/ /The page itself is blank. Attached to it, however, is a sketch map of Transbaykal: Orographic Scheme./ /212/ the greatest projections of an Alpine type, rich Karbildungen /Karformations/, and other traces of a former glaciation. The bulk of the mountain range has a width of 40 to 70 kilometers and heights of only between 1,200 and 1,600 meters. But the saddles and passes are only 200 meters lower. Outcroppings of basic stone, principally gneiss and granite, occur mostly only on the lower parts of the slopes. The southern and eastern parts present a motley geological picture. Represented here primarily are crystalline limestone and other matamorphic rock, then porphyrite and basalt. In the Khamar-Daban radioactive materials have been determined in addition to other minerals. The bulk of the mountain range is covered [13] with thick forests. Only a few bare gol'tsy project beyond these forests in the eastern part, and only higher Alpine forms project beyond the tree line in the western part. The composition of the forests is strongly influenced by climatic conditions. On the slopes inclined toward Baykal and exposed to the damp and cool northwest winds there is typical Siberian taiga with larches, Siberian stone birch, pines, and others. On the dry southeastern slopes, on the contrary, pines predominate almost exclusively. The flat ridges are covered by an underwood and bush formation.

The Khamar-Daban is separated from the Borgoyskiy Mountain Range on the south by the valley of the Temnik, which flows down to the Selenga. The Borgoyskiy Mountain Range runs parallel to the Khamar-Daban and generally has the same character except for the fact that toward the south it is more heavily broken up /zergliedert/ and with wide, open valleys declines to the extensive graben depression of the Dzhida. In contrast to the Khamar-Daban and the Borgoyskiy Mountains, which are difficult to traverse and not very attractive because of their forest wilderness, the Dzhida valley is relatively well opened up. This goes back to the valley's valuable natural resources. [ns] In the area around the upper course of the river there is, in addition to coal, rich supplies of wolfram and especially of molybdenum. These deposits can be mentioned among the richest in the Soviet Union.

[cf. pp. 238-239--Analyst]

133 peculiarity of these lakes depends on the rock in which they are set. If such lakes lie within eruptive stone, they are as a rule alkali, i.e. they contain and deposit soda (Doroninskoye, Ononskoye, Borgoyskoy
317 Lake). In winter when the climate is dry, soda crystallizes out from the frozen surface of these lakes while strong winds raise up these soda crystals from the ice and deposit them in the immediate and distant environs, thus fostering the mineralization both of the ground water and also of the surface water. In order to extract soda, the soda crystals, which look like a white tinge on the ice, are swept together; thereby 20 to 25 tons of highly concentrated soda lye can be gotten from a hectare of ice surface. In order to foster the crystallization out of the soda, the ice is beaten open so that the lake water comes out under its own pressure through the openings and floods over the surface of the ice. If the lakes lie within Jurassic sediments, then sulphate forms as a rule, especially mirabilite. Deposited under the floor of Selenginskoye Lake is a layer, several meters thick, of sulphate of soda, whose supply is in millions of tons. Alginskoye Lake also belongs in this group. The railroad from Ulan-Ude to Naushki is supposed to lead to the opening up of the important salt deposits in the area of the Gusinoye Lake; the brown coal deposited in the same area is supposed to serve as a basis for this. A large sulphate plant is already in production. At the
361 Gusinoye Lake station a city with more than 10,000 inhabitants has grown from an unimportant village. Coal mines from here supply the railroad. In addition sawmills, brick yards, great dairies, and a fish-canning factory have come into being there. In the fish-canning factory the catch from Gusinoye Lake is processed.

133 The steppe regions which appear in southern Transbaykal vary
•137 greatly in their economic importance. In the most southerly areas the artemisian steppe extends over a very wide area: it extends not only over the valley areas but also over the mountain slopes and mountains of the mountain ranges, which here are mostly low. In its driest parts the ground is often covered only 40 percent to 50 percent with plant growth, and the height of the grasses scarcely reaches 15 to 20 centimeters. These are poor meadows. Toward the north, through the thickening /218/ of the covering of vegetation and through the increase in the grasses, this type of steppe gradually changes into the artemisian grass steppe, in which the grasses become 35 to 40 centimeters high. These steppes are used as meadows in the spring and in the first half of the summer--as long as the vegetation still hasn't withered away under the summer heat. Both types of steppes have developed on chestnut-colored

Both types of steppes[1] have developed on chestnut-colored soil. Within these steppes salt-pans also appear. Further toward the north the soil becomes darker, its humus content becomes greater (3 percent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the foreground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

industry, metal and machine factories. East of Mogzon the railroad crosses the Yablonovyy Ridge and enters Nerchinsk Daur. 361

Nerchinsk Daur

The Yablonovyy Ridge, which is among the best known mountain ranges in Transbaykal, forms the boundary between the two Daurs. The Yablonovyy Ridge forms the watershed between the rivers flowing into the Amur and those flowing into the Selenga, and thus in the broadest sense it separates the sphere of rivers flowing into the Pacific from the sphere of rivers flowing into the Arctic Ocean. However, this applies only to its southwestern part, for above the Chita River the Yablonovyy shoves in between the Vitim and its tributary the Karenga, and further to the northeast it divides the river area of the Vitim from that of the Olekma, all of which flow toward the north to the Lena. In addition, the Yablonovyy Ridge forms a remarkable climatic and plant-geographic border. The influences of the east Asiatic monsoon penetrate as far as this mountain range and permit deciduous trees to flourish here as representatives of a more moderate climate. West of the ridge deciduous trees are lacking. In this connection the height of the ridge is not so significant as to permit such an influence to be expected. /33 [37]

The Yablonovyy Ridge generally attains a height of only 1,200 to 1,300 meters. Its highest point, which is 1,670 meters high, is the Sarakan, which lies northeast of Chita and which as a golets projects alone from the otherwise very monotonous surface. The relative differences in heights between the valley depressions and the ridges are, however, only insignificant. The railroad crosses the mountain range west of Chita at the Yablonovaya station at /222/ a height of 1,050 to 1,070 meters. The pass here lies only 105 to 125 meters above the valley of the Khilok on the northwest but it is 305 to 325 meters above the bottom of the valley of the Ingoda with the decline to the Ingoda valley also being shorter and steeper. This asymmetrical structure with a steeper southeastern slope and a flat northwestern slope is a characteristic of almost all the mountain ranges in Transbaykal. Obruchev explains this contrast by the effects of the frozen earth by means of solifluction and heavier erosion. The ridges themselves also appear little in the picture of the landscape. From the valley of the Khilok the slope rises slowly to the watershed, which appears to be an almost level rampart. The ridge itself is a more or less plain which is covered with thick forests. Sunk in this plain are saddle-like hollows taken up by swamps. From

000 around the Mogocha station lie extensive gold fields. Thick taiga
●137 lightly inhabited here crosses over all types of land. The raw climate is already strongly perceptible. Permafrost sets in already at a depth of 1 meter. The increasing swampiness of the lower places, and the increasing appearance of gol'tsy which are bare or covered only by bent wood vegation /Krummholzvegetation/, show that here we already find ourselves in the transitional area to the raw forest landscapes of the north.

133 The Baykal Cherskiy Mountain Range accompanies the Yablonovyy Ridge on its southern side and goes in the same direction as the Yablonovyy. East of the Ingoda break-through, the broad, swampy valley of the Chita River forms the border. Then the Cherskiy Mountain Range extends further still to the northeast into the still little known regions around the source of the Nercha. It is to this area, in the opinion of Vosnessenskii, that the 1,971 meter and 2,091 meter high Kropotkin Mountains belong. The course of the Daur Mountain Range, which adjoins the Cherskiy Mountain Range and runs in a parallel line to it, is still not fully clarified. Since the border between the two mountain chains is very vague, the two ranges are often referred to by Russian authors as one range, either under the first or the second name: In the break-through valley of the Ingoda the two mountain ranges can be recognized as separate units. Two tributaries of the Ingoda, the Olenguy on the right and the Kruchina on the left, divide the overall massif. Further toward the east the Daur Mountain Range remains on the left side of the Ingoda and Shilka, crosses /225/ the Nercha and, in the opinion of Gladtsin, could continue into the Shilkinskiy Mountain Range. In their gently rolling surface forms the two mountain ranges show their original form to be almost level. With the later elevation this original plain has been far more valleyed and divided up through increased erosion that the Yablonovyy Ridge has been; and, accordingly, watershed areas in some parts have disintegrated or show a course that is often very winding.

The Borshchovochnyy Mountain Range, the next mountain ridge to the southeast, is to be regarded as the last typical Baykal mountain chain. The Borshchovochnyy begins in the area around the upper course of the Ingoda and of the Onon on the Mongolian border and stretches almost 1,000 kilometers to the east-northeast. With this mountain range, too, the eastern part of its course is more marked and better known that the western part. Immediately after the break through in the Daur Mountain Range, the Borshchovochnyy forces the

1 [i.e. Shilkinsk Mountain region --Analyst]

rolling with gentle rises toward the edges. In the ground lies a granite /33
foundation, over which is liparite and tuff, covered over by a thick layer of lacustrine deoposits, which point to the formation of the steppe basin from a former lake (Gladtsin, 69). Striking is the present day

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science, (Moscow, 1938), p. 174.

dryness, which forms a sharp contrast to the forest landscapes surrounding the steppe island. The low position (620 to 680 meters above sea level) as a depression between the contiguous mountain chains, may well be the reason for the special climatic conditions prevailing here. The fertile steppe soil, in many cases designated as black earth, has lead to thick settlement, and, accordingly, the grass steppe only rarely now shows itself in its original dress. The levelness of the steppe is interrupted only by flat, mostly dry valleys with gentle slopes. /224/ In the deeper places there appear damp meadows, often swamps, and also not uncommonly even salt-pans. The slopes of the valleys sloping [137]
to the north are overgrown with birches, poplars, meadows, and bushes, especially if the valleys have the character of a ravine. The transition to the forest landscapes occurs quickly. However, the souther slopes remain free of forests the longest and often appear in contiguous taiga as small forest steppe islands. Toward the Shilka the steppe plain breaks off with a steep, heavily valleyed, high step, which from the river often gives the impression of a mountain land. Next to the dairy and meat economy, the cultivation of grain stands in first place in the agriculture of the steppe island. The economic center is Nerchinsk [361]
with its mill plants, brandy and alcohol distilleries. In terms of transportation Sretensk has a better location, for there the regular Amur shipping begins. West of Sretensk in Kokuy there is a shipyard.

The Transbaykal Railroad runs from Nerchinsk on further on the 496
left shore of the Shilka as far as Kuenga, and from here a branch railroad leads to Sretensk. The main railroad line, which from here on bears the name of Amur Railroad, leaves the Shilka Valley at Kuenga and circumscribes the Shilkinsk Mountain Range in a great arc. Here 316
in the north, lying in a side valley of the Kuenga and connected by a railroad line, are the coal mines of Bukachacha, which in their production stand in first place in Transbaykal, and farther to the east around the Mogocha Station lie extensive gold fields.

133 in height. Thus the Barun-Shebetuy golets, which lies between the Chikoy and its tributary the Chikokon and which is 2,556 meters high, is taller than the Sokhondo, which formerly was considered to be the highest mountain in Transbaykal. Because of their location away from everything and because of the difficult access to these uninhabited regions, they are still very little known. However, the research of Dengin gives a general picture of the landscape, which does not differ from the rest of Transbaykal in its geological-morphological history. The Barun-Shebetuy and also the gol'tsy neighboring it, like most of the mountains in the Sokhondo series, also have a flat surface, and the rest represents a strongly elevated area which is almost a plain. The present-day relief is the result of a very heavy erosion with an important role having been played by the glaciation in the Quarternary period, which is indicated on the Sokhondo by Kare /Karst?/, trough valleys, and moraines and which apparently also gripped the other mountains, which are no less high. Therefore, the same thing has resulted here as is shown by the morphological relationships in the western part of the Khamar-Daban and in the bulk of the Barguzin Mountain Range: everywhere that the diluvial glaciation has gripped a place, the elevated peneplain parts have experienced a much stronger shaping into mountain-like forms, indeed a shaping almost into the Alpine type, than the other areas. Of special morphological significance for the area around the upper course of the Ingoda, the Chikoy, and the Onon, is, in addition, the mighty appearance of intrusive rocks from the Paleozoic to the upper Mesozoic periods and also the appearance of effusive rock such as porphyry, dazite /Daziten/, andesite, and basalt of varying age. These rocks, because of their varying resistance, have contributed significantly to the differentiated shaping of the relief. From all this it is clear that the present-day relief does not correspond with the geological-structural formation and its direction by reason of the prevailing erosion processes of the past and present. The slopes of the [137] mountains are as a rule covered with thick forests. Only on the sides facing south are there treeless steppes, especially, naturally, on the extreme slope facing Mongolia. Pure steppe, for example, crosses the foot of the Sokhondo to a height of 1,200 meters. Birches and aspens, soon joined by pines, constitute the transition to the raw mountain taiga, in which larches and Siberian stone birch predominate. From 1,900 meters on, the transition to mountain tundra begins via bent wood vegetation. As a consequence of mighty storms, the windfallen wood is very heavy. There are Russian settlers only on the outer

off steeply at the Chara valley. The Udokan Mountain Range declines steeply on the north and on the south, in short, on both sides, while the Kalar Mountain Range has its steep decline in the north and declines slowly toward the south. 133

The Kodar Mountain Range, as seen from the Chara valley, represents a single closed mass, its high plain character being clearly recognizable. Through erosion this range has been broken into individual blocks. The Quarternary glaciation has contributed to widening and reforming the valleys. Most heavily cut up is the steep southern slope. The gol'tsy resting on the surface of the massif attain an absolute height of approximately 2,000 meters.

The Udokan Mountain Range in its picture shows a far greater unevenness than the Kodar Mountain Range. The former clod is broken up into irregular parts, which lie at various heights. Here, too, erosion has participated very strongly in the destruction of the original forms. Most strongly torn up is the decline toward the east to the valley of the Olekma. The highest places in the mountain ranges, especially in the area where the Udokan runs into the Kalar Mountain Range, received their present-day face through the Quarternary glaciation, whose traces are visible everywhere and give this part of the mountain range an Alpine appearance. But, in addition, there are also level high plains in the Udokan Mountain Range. In these high plains the original form of the post-Tertiary peneplain is visible.

Aside from the parts where it unites with /236/ the Ukokan Mountain Range, the Kalar Mountain Range generally has more high plains and flat gol'tsy, whose slopes are saturated with pieces of rock and boulders. The Kalar has preserved its plateau-like character better than the Udokan Mountain Range. Toward the south the Kalar slopes slowly to the middle and lower course of the Kalar valley.

The greatest part of the Olekma Highland is overgrown with thick taiga; only the high gol'tsy project beyond these forests and are covered with bent wood or tundra vegetation. The highest mountains are without any form of plant growth. The swampiness is generally very great. It occurs most heavily in the level high plains and the valley depressions. The valley of the Chara especially is very heavily covered with swamps, just as generally the valleys opening toward the north suffer more from much too much dampness than the valleys opening toward the south. However, already here lonely Russian settlements are found, in which agriculture is pursued. Tungus reindeer breeders are known in the valleys of the Kalakan and Kalar. [137] [311]

133 Gold streams are mined on the Ketemakhta, a left tributary of the [316] upper Kalar. Connection with the outside world is provided by [487] mountain paths, which lead toward the south to the Mogocha Station on the Amur Railroad.

The Olekminsk Stanovik comprises the entire area around the upper course of the Olekma and at the same time forms the watershed for the Amur. The entire region is described as a forest-covered plateau, whose general height lies between 950 and 1,000 meters. The river valleys are mostly deeply etched, and lie 80 to 200 meters below the surface of the plateau. The ridge between the Olekma and its right tributary the Tungir bears the name of Dzhaliro-Tungirskiy Mountain Range; otherwise individual designations are not known. The watershed for the Amur forms a flat ridge, which generally is only 800 to 900 meters high. Toward the south, toward the Amur, this ridge gives way very quickly to hilly country, which is interrupted by the broad valley areas of the numerous waters flowing into the Amur. The most important of these is the Amazar, whose valley is also used for a stretch by the Amur Railroad. In contrast to the [237] thick larch forests, which cover the bulk of the Stanovik, the vegetation on the slopes inclined toward the Amur includes numerous deciduous trees and thus shows already a more friendly picture. Gold is the 316 most valuable product of the regions. The river valleys between the upper Tungir and the Amazar are especially rich in gold. These valleys are very well opened up because of their nearness to the railroad. The center of gold mining is the city of Mogocha, which has approximately 30,000 inhabitants. It lies on the railroad on the left side of the Amazar. The alluvial sands of the little rivers flowing into the Amur also have gold and, therefore, from early times have [361] enticed many men who then remained in the land. Accordingly, the entire strip of land between the railroad and the Amur is relatively thickly settled. Worthy of mention here is the valley of the Urusha, which is crossed /237/ by the railroad at the station of the same name. In the vicinity of Urusha brown coal deposits have been determined, and, west of Urusha in the vicinity of the Yerofei Pavlovich station (which has more than 20,000 inhabitants), there are also usable tin deposits.

The Oldoy-Zeya Mountain Country

133 East of the area around the upper course of the Olekma, the

Stanovoy in two places, reports, it is characteristic of the entire structure of the Stanovoy that the plateau in the middle slopes both toward the north and also toward the south in step-shaped breaks, which stretch in a latitudinal direction. Also in terms of landscape there is a difference between the two outer zones. In the north the valleys are mostly filled with forest, and only the deepest places are taken up by moss hills and moss swamps, while the heights appear bare of forest and are covered with rock ruins and boulders or consist of smooth, steeply towering, contiguous bare rock. In the south, on the other hand, /239/ all the heights have thick forests, and only the valley areas are without forest, as a consequence of the greater swampiness. In contrast to the rest of the Stanovoy, the area around the source of the Zeya is also mountainous in the south.

South of the Stanovoy stretches the upper Zeya's broad graben depression which is filled with forests and swamps. Opposite it and coming from the west is the valley of the Gilyuy which is significantly narrower. Both are among the richest gold fields in the Far Eastern regions and are, therefore, better known. The valley floors and even the gentle plateau slopes are mostly covered with a thick layer of moss drenched with dampness, while thick larch taiga grows on the better-drained slopes and elevated places. Deciduous trees occur here only very rarely. As a consequence of the predominant permanently frozen earth, there are often moss hills containing ice cores. These hills are often several meters high, and, if they appear in large numbers, they give rise to a landscape similar to a hill tundra. The crossing of such moss swamps is made difficult by the fact that the frozen earth has gaps, probably because of warm springs, and, accordingly in such places one can sink to unfathomable depths. Where gold mining is pursued, the taiga as a rule is destroyed beforehand by forest fires set off intentionally. The taiga thus gives way to a horrible, plundered landscape, in which there are numerous, deserted huts, which, overgrown with bushes, are falling into ruin and increase still more the despair of the picture. The region does not have larger localities. There are some villages, such as Potekhino and Bryatan in the center of the depression, in which there are larger supply warehouses from which the widely scattered settlements of gold washers are supplied. The extraction of gold, now run by the state, brings rich yields and has made the depression into one of the most important gold areas in the Far East. The gold streams lie along the Zeya and the Gilyuy and their tributaries. The very great swampiness and the existence of

Oldoy and of the Great Urkan. Without a prominent delimitation the 133
Yankan extends out from the Olekminsk Stanovik toward the east and also shows a gradual transition through the dissolution of the plateau-shaped surface, both toward the north to the area around the upper course of the Gilyuy and also toward the south to the Amur. The Tukuringra Mountain Range stands out far more sharply in its isolation, since it forms the demarcation line between two marked depressions, i.e., between the already mentioned depression on the upper Zeya and the Gilyuy in the north and the wide Zeya-Bureya plain in the south, which here projects toward the north as far as the foot of the mountain range. The Tukuringra Mountain Range consists principally of metamorphic rock and in part of gneiss and crystalline slate. It is heavily cut up by extensive erosion and divided into individual massifs, which in part also go back to vertical dislocations. The surface is characterized by the usual plateau form with peaks and gol'tsy set on it. The gol'tsy often stand close to one another and not uncommonly form a middle mountain range landscape with significant differences in height. The general height of the plateau area is 900 to 1,000 meters, while the peaks project 500 to 600 meters beyond this. A great part of the mountain range is covered with thick taiga, and [137]
only the highest gol'tsy are without forests. Accompanying the Siberian types of trees are numerous deciduous trees on the southern slopes. These deciduous trees give a more friendly stamp to the picture of the landscape. However, along with the moderation of the climatic conditions, an extraordinarily thick underwood sets in at the same time. This underwood is very much of a hindrance to man's advance, and, accordingly, despite the lighter colors, the landscape's animosity to cultivation remains here too--a quality which especially distinguishes all these mountainous regions.

From the Dep River, a left tributary of the middle Zeya, the continuation of the chain of mountain ranges toward the east bears the name of Dzhagdy Mountain Range. A cross-connection from it toward the north to the Stanovoy forms the eastern cut-off of the upper Zeya depression and at the same time the watershed between the Zeya and the Uda. This remote mountain barrier is as good as not explored at all. In its central part it is supposed to be 2,000 meters and more high. The Dzhagdy Mountain Range itself continues generally toward the east with a change several times in its direction. /241/ It divides the drainage area of the Uda from the Selemdzha, the largest left tributary of the Zeya, and then goes over into the Bureya Highland, whose

The Zeya-Bureya Plain

This area is the section of the Amur country which is the richest in population and which is the best opened up economically. The easily accessible plain, the milder climate, the fertile soil have from early times /242/ caused a relatively heavy population to settle here, and pursue agriculture. This plain is the granary of the Amur region; 80 percent of the total area under cultivation in the region lies here. [311]

The region falls into two sections: the Amur-Zeya plateau in the west and the great Zeya-Bureya lowland, which extends east of the lower course of the Zeya along the Amur as far as the Bureya Mountain Range.

The Amur-Zeya plateau takes up the western part. This plateau stretches between the Zeya, its tributary the Urkan, and the Amur. The plateau declines slowly from the northwest to the southeast; the interior sections are gently rolling open country; on the other hand, the rivers toward the outside have dug deep gorges. The plateau breaks off sharply toward the lower Zeya and toward the Amur. On the right bank of the lower Zeya the decline becomes 180 to 240 meters deep and, with its heavy gorge formations, gives the impression of a mountain when viewed from the eastern "meadow shore." On the Amur the plateau lies 100 to 120 meters above the river at most, but only very rarely does the plateau come near the river. Here between Chernyayevo and Blagoveshchensk, the Amur valley has four terraces. The lowest one is exposed only when the water is low. Adjoining it with a step up of 4 to 6 meters, and, in places even 8 meters, is the meadow terrace with sandy, gravelly, and muddy deposits. This terrace is considerably wider and is regularly flooded when the water is high. The next middle terrace lies 10 to 20 meters above the normal water level and also breaks off precipitously toward the second terrace mentioned above. Forming a steep bank, this terrace also goes right to the path of the water in many places. There are already settlements in many places on it. The fourth or upper terrace attains a height of 50 to 60 meters and is less clearly set off. The northwestern part of the plateau still has a thick forest covering, but here the percentage of deciduous trees is very considerable. Toward the southeast the thickness of the forests decreases, and they gradually give way to a type of forest steppe. Characteristic of this section are little birch forests and extensive swamps and swamp meadows. Accordingly, livestock breeding predominates among the Russians settled here. [137]

Range, which here goes up to the Amur. Toward the north the plain 133
extends into the river area of the Selemdzha as far as the spurs of the Tukuringra Mountain Range. Vast plains, formed by Tertiary fresh water deposits, warm, damp summers, extensive agriculture, a heavy population, numerous villages and little cities--all these are the main distinguishing marks of this region.

The southern part along the lower courses of the rivers is almost completely level and is often covered with old waters, swamps, and lakes. But even here dry islands rise in long, flat waves in the areas between the rivers. Morphologically, however, these dry islands are scarcely striking in the plains which generally predominate. Instead, something of a change in the vast monotony is brought by the paths of the rivers, all of which have a marked steep right bank which though not high, is still heavily gorged. The left meadow shore, which mostly is covered with swamps, then rises gradually to the watershed areas. The Bureya continues to show this asymmetrical shore formation even far into the mountain country. North of the Tom', a left tributary of the Zeya, the relief changes. It becomes rolling, hilly, and rises gradually toward the north. Here ends the contiguous 133
meadow steppe, which in its natural state has grasses as tall as a man 137.
growing on it. These grasses have brought the steppe the name of "Amur Prairie." This meadow steppe makes way for a magnificent, peculiar forest steppe, in which the hills and high places are covered like islands with oak forests or bushes, while the meadow steppe continues in the lower spots. The dampness of the soil decreases, even though in spots there are often swampy places in the loamy soil. With the further rise toward the north the differences in height become greater, the valley areas become deeper and narrower. Coniferous trees appear on the mountains. The swampiness of the valleys begins to increase again. Slowly the dark taiga takes possession of the entire land, while in the background the rocky peaks of individual gol'tsy already rise from the contiguous greenery.

The significance of the Zeya-Bureya plain is based on the 134
extraordinary fertility of its soil. Tomashevskii (219) has investigated

219. Tomashevskii, I. I. Pochvy iugozapadnoi chasti Zeiskobureinskogo vodorazdela /The Soil of the Southwestern Part of the Zeya-Bureya Watershed/. Works of the Amur Expedition, Vol. XV. Petersburg, 1912.

134 a large part of this region in this connection. In the southwest soils of intensive black color have developed on the heavy loam. This soil is covered with meadows and pastures with high grass. The black color is the reason that the first explorers put this soil in the category of black earth, and even today this soil is designated still as "chernozem" by the native population. But this is not black earth, for it lacks the granular structure, and also the heaping up of carbonates cannot be determined. During the summer the humus horizon is soaked with water, and in horizon B regeneration processes /245/ /Sketch Map of the Southern Part of Khabarovsk Krai and the Maritime Krai:/ 7/1/246/ go forward, which often point to light podsolization. This semi-marshy meadow soil, as Tomashevskii calls it, is, however, not inferior to black earth in fertility and is in a position to produce excellent wheat harvests year after year without any fertilization. As a rule this soil lies in higher places at some distance from the river valley areas, and it covers more than half a million hectares. Somewhat less fertile is a type of soil which is distributed in the deeper depressions and is likewise semi-marshy. This type of soil bears the designation of "miasigi" (kneaded mass /Knetmasse/) among the native population. Here, too, the deep black, upper horizon of soil has developed on heavy loam, but the signs of regeneration are more sharply marked. During the summer dampness horizon B becomes tough, sticky, and viscid like dough, so that, horses sink into the earth and the soil can be worked only with difficulty. In its natural state the "miasigi" is covered predominantly with sedge (Calamagrostis) and moss (Polytrichum) and thus already in its external picture stands
[137] out from the relatively drier soils. Brighter podsol soils take up a large part of the Zeya-Bureya plain, especially toward the north and east, with white birches settling by nature on the heavier soils and black birches and oaks on the lighter soils. These trees were already known to the first Russian settlers as indications of the soil. The bleaching out varies gradually and is generally slight. The fertility of this soil is supposed to be equal to that of black earth. Above all this soil can be easily worked since the drainage is better.

During the dry period the Zeya-Bureya plain recalls the black earth steppes of southern Russia. However, during the rainy period the picture changes completely. Flat basins fill up to become lakes, valleys are flooded, and water even remains standing in level areas. Thus Tomashevskii has been very surprised how anyone could ever have arrived at the thought that black earth has formed here. The

7/1 [Cf. Cat. 116, pp. 282-283 - -Analyst]

conditions the Selemdzha is even traveled as far as Selemdzhinsk. 000
But then begins a land route which is 250 kilometers long and is 487
laborious to travel. At the end this land route reaches the high-lying gold fields with steep ascents.

From the mighty complex of the high plateaus, which surround 133
the area around the source of the Selemdzha, the highland gradually declines toward the south. The surface of the Bureya Mountain Range is only 600 meters high on the upper course of the Amgun and of the Tunguska (a left tributary of the Amur), and only individual gol'tsy rise to heights of 1,000 meters. The Amur Railroad crosses the mountain range in the Lagaraul Pass at a height of 452 meters, and on the Amur itself the highest mountains only reach a height of 200 meters. The mountains here come in a broad front directly to the river, which breaks through the Khingan-Bureya Mountain Range here between Pashkovo and Yekaterino-Nikolskoye in a narrow valley which is 150 kilometers long. The great masses of water are pressed together here by steeply declining, often bare rocks, which come together in places to form a narrow corridor with high, almost perpendicular walls.

The general impression of the Bureya Mountain Range differs little from that of the Zeya Highland. Here, too, the basic forms permit the plateau-shaped surface to be recognized, and projecting from this plateau surface are numerous gol'tsy. However, all parts of the mountain range here show greater effects of erosion, which undoubtedly goes back to the heavier rainfall. Almost all the rivers, at least in their upper courses, flow in narrow, rocky, deeply etched gorges as long as they remain in the sphere of the plateau-shaped elevations. Then the valley areas quickly widen, and, even though they are often still accompanied by steep, rocky slopes, the valleys extend between the gently inclined slopes of the swampy plateau. But also in the lower places there are still individual cones or summits sitting on the plateau.

The vegetation of the Bureya Highland is /251/ unusually 137.
varied. The reason for this lies not only in the changing relief but also primarily in the fact that the elements of three flora regions meet here, namely the East Siberian, Okhotsk, and Manchurian flora regions. In the northern parts of the highland on the mountains and slopes at a height of 600 to 900 meters there are thick forests which consist primarily of Ayan spruce (Picea ajanensis) and fir with white bark (Abies nephrolepsis), with a small number of birches intermixed. The low temperatures, the cool fog, and the strong, damp winds which blow

137 in constantly from the sea in the summer, have given these forests a peculiar appearance. The branches are covered with long lichen, which hang down like beards, and moss grows on the stems as far as the boughs. A thick layer of moss also envelops the earth, and with every step water springs from the damp cushion. In the deeper places and also in the middle part of the highland, larches then appear as forest-formers, and the forests gradually become purely larch forests, and also fill the valley areas as far as the middle courses of the great rivers and press far to the south. The reason for this can be seen above all in the fact that the cold air masses flow down into the valleys and thus prevent the expansion of other types of trees. Only on the lower courses of the rivers flowing toward the south do deciduous trees set in. The larch forests which cover the bulk of the Bureya Highland are economically the most valuable.

316 The valley of the Niman was once among the most famous of the gold fields in the Far East. But the deposits are already exhausted. In their place the gold fields in the area around the upper course of the Bureya have now appeared, but these cannot compete in yield with those of the Selemdzha. The valley of the Bureya serves as the con-
505 necting path to the gold dressing installations. When the water level is good, the Bureya can be used by steamers for 345 kilometers as far as the locality of Chekunda, and occasionally even as far as Umal'ta. From Chekunda down the greater drops already work so strongly against water vessels that from here on the boats as a rule have to be drawn by
487 horses. The last part of the way then is traveled by car or with riding horses and pack horses. An extension of this route toward the east leads over a pass, which is more than 1,000 meters high, to the gold fields on the upper course of the Kerbi, a tributary of the Amgun, which already belongs to the lower Amur. This much-traveled old Bureya gold route has today for the most part lost the importance it once had, since rich deposits of molybdenum and especially of coal have been found in the valley of the upper Bureya and a railroad has been built there.

316 There is molybdenum in the valley of the Umal'ta, a left tributary of the upper Bureya. Here a great molybdenum works has been erected in Ust'-Umal'ta. The hard coal deposits fall into two parts, into the deposit on the upper Bureya and the Tyrma deposit, which are separated from one another only by tectonic occurrences with
496 succeeding erosion. For the /252/ opening up of these deposits a railroad line is being built from Izvestkovyy, which lies west of Birakan on the Amur Railroad. This new railroad line leads over the Bureya

133 meadows on the river, otherwise they are covered with spotty clumps of grass. Where this grass is destroyed, the loose sand shows through, and the wind blows this together into dunes. The shores of the rivers are flat and predominantly covered with meadow, over which the [341] high water extends. The old shore embankments are of greatest importance for human settlement; the broader ridges are as a rule plowed up and used for vegetable gardens, while the areas which become flooded serve as meadows or are used as hay fields. Now and again the entire plain is narrowed down by approaching mountains, or the plain widens to a great breadth with the neighboring depressions adjoining it. In such an area, in wide, swampy surroundings, lies the very flat Lake Bolon' which is 1,200 square kilometers and which is connected to the Amur by a broad water stream. The water level of the lake follows that of the Amur, and when the water is high even a backward flow is to be observed. At Komsomol'sk the hilly mountains come right down to the river on both sides and force the river into one continuous bed. Here ends the contiguous line of the real Amur plain with its magnificently flat relief, /257/ and an irregularly formed landscape begins. Nemerous rows of hills and chains of mountains with heights of up to 500 meters, indeed, even up to 900 meters, make the general picture more lively. The Amur again and again gains in area and widens often like a lake with numerous islands in the broad valley areas and forms in its neighborhood standing water in the form of long lakes in individual basins and old river beds. Despite this, the overall character of the far more broken up Amur plain is determined by the tributaries, which flow into the Amur from both sides in long, often curved, wide valley areas and which increase still more the degree of dividing up of the country. First to be mentioned in this connection is the valley of the Gorin, which extends into a broad depression in the hinterland and which conceals there the big [135] Lake Evoron. Further down are the plains of the Limuri and Pilda; the area around the upper course of these rivers is known for its gold sands. 133 Finally there is the extended valley of the Amgun which is more than • 137 800 kilometers long. The general landscape picture changes its face but little toward the north. Meadow steppes, overgrown with high grasses, are also still typical here, even though the ground becomes ever damper toward the north and the swampiness increases. The same applies also to the appearance of broad-leaved deciduous trees within the forested areas; these forests represent characteristic mixed forests on the lower hills and mountains. In the direction of the

Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary, on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

people there. All settlements on the lower courses of the rivers coming 133
from the Sikhote-Alin' suffer in such floods. The harsh continental winter brings the appearance of frost such as is usual in Siberia. The water which is pressed out from rivers through the ice-covering, freezes again and again and makes formations of ice on top of ice, which can become kilometers long. If the water flows under pebble slopes, then the rock fragments are covered with concentric layers of ice, which are up to 10 centimeters thick. The boulders and pebbles then are entirely frozen in, but when the thawing weather comes, they fall into all the heavier movement (Arsenyev).

Despite the fact that the forms vary greatly in detail, the large, round, equalized lines of the mountain range nevertheless remain predominant in the overall impression.

The general forest covering contributes to this. Despite the 137.
careless cutting down of trees in the border regions, this forest covering with its wealth of wood, especially of valuable deciduous trees, represents a still unexploited treasure of the Sikhote-Alin'. But the forest is not of the same quality everywhere. The great dampness hinders growth especially on the coast, where the trees are often crippled and covered with knots. The underwood is then all the thicker, and the natural wilderness is all the more difficult to penetrate. In the interior the forests become swampy easily, and even on the watersheds marshes form.

The picture of the present-day coast owes its origin to the old 133
forms of a heavily cut-up landscape submerged under the sea. Striking is the difference between the marked ria coast on the south and the more compensating coast on the east which has only a few bays. The causes of this morphological phenomenon have been investigated in great detail by Romer (168) and Nowak (134). They show first that

168. Romer, E. Bericht über geographischen Arbeiten im Gebiete des Sichota-Alin-Gebirges. /Report on the Geographical Works in the Area of the Sikhote-Alin' Range/ Anzeiger de Akademie der Wissenschaft Krakow, /Review of the Academy of Science in Krakow/ Series A. Krakow, 1913.

134. Nowak, J. Wissenchaftliche Ergebnisse der Expedition nach dem Sichota-Alin. /Scientific Results of the Expedition to the Sikhote-Alin'/ Krakow, 1913.

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Of the more favorable bays on the northern part of the Sikhote-Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has developed quickly into a city with more than 20,000 inhabitants. It has also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

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For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

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The real, vast mountain massif of the Sikhote-Alin' is very sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Isiubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

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Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

regions, the Sikhote-Alin' can still, as always, be designated as rich in forests. Planned exploitation of these forests has still not been begun at all. Of still greater significance for the future are the vastly rich resources of the ground. The southeastern part of the Sikhote-Alin' appears to be a true mine for the latter. However, a large part of these supplies has still not been once sufficiently investigated. The prospects for development along mining and industrial lines are always completely favorable, only an opening up in terms of transportation must pave the paths to the sources.

The extreme southern part of the Sikhote-Alin' is generally relatively thickly populated, and it is also better opened up from Vladivostok on. It already belongs more to the cultivated zone, and economically, too, it is so closely connected with the cultivated zone that it will be treated in connection with the Ussuri-Khanka depression.

The Ussuri-Khanka Depression

The western foot of the Sikhote-Alin' is, for its entire length, accompanied by an extensive depression, which stretches from the Gulf of Peter the Great to the mouth of the Amur, thus covering more than 1,300 kilometers. The Ussuri-Khanka depression forms the larger, southern part of this long depression and has a total length of 700 kilometers from the southern end to the mouth of the Ussuri. As compared with the Sikhote-Alin', this depression represents the sunken part of the land step and is accompanined on the west by the step, again elevated, of the east Manchurian mountain range. In the Tertiary period, the entire depression, as Ivanov (83) assumes, was flooded by the sea, and

83. Ivanov, D.V. The Sikhote-Alin' Ridge /in Russian/. Petersurg, 1896.

thus the Sikhote-Alin' projected from the sea as a long, narrow island. Proof of this view has been attained up to now only for the southern part of the depression.

The bulk of the depression belongs to the drainage area of the Ussuri. A flat watershed, which is scarcely perceptible in the countryside and which has an absolute height of only 190 meters above sea level, separates this section of the depression from that section of the depression whose waters drain off toward the south, i.e., the river

133 by a peaked series of hills, which are 50 to 100 meters high. However, individual hills all appear on the floor of the valley, from which they rise with very steep walls. Adjoining this area to the east is a gently rolling and irregular Tertiary hill country, which acts as a transition to the spurs of the Sikhote-Alin'. South of Khanka Lake and also in •[137] the Suyfun depression numerous small oak forests have been preserved which give the picture of the landscape a varied and attractive impression. As a consequence of the good drainage the best agricultural land in the area is to be found in the Suyfun depression. But also in the Tertiary hill country agriculture is making good progress. Here are the /270/ most thickly populated sections of the Maritime Krai, in which, however, the entire region near the coast of the Bay of Peter the Great must be included.

563 342 241 Great Russians above all are settling in the Ussuri depression. Their weathered, colorless log houses which are built of wood, are typical of the settlements in this area. Striking, however, in contrast to their homeland are the relatively flat roofs, which probably indicate the slight covering of snow which they have to bear here. Wheat, oats, and barley predominate in the appearance of their fields, but, in addition to corn, native plants, such as soy beans and perilla, are also appearing more and more. Ukrainians are the predominant settlers in the Khanka depression. As has already been indicated, this is based on historical reasons, since people from the Don above all were used in setting up the Ussuri Cossack formation of 1862. But it is still remarkable that it is Ukrainians who are in the majority in this almost treeless province. The bright color of their whitewashed mud houses dominates the settlements, and between the wheat fields corn comes strongly into the foreground. The Ukrainians here have also taken over for themselves the cultivation of sugar beets, just as they have in their homeland back in Europe. But, in addition, the yellow of the mud huts of the Chinese and Koreans also appears already in the individual settlements and in the village communities. These huts are often enclosed by the same mud walls; and in the flat, dammed-up fields there appears the light green of rice plantings, which are predominant in the damp area to the south of Khanka Lake. Further in the south toward the coast there is no longer a clear separation, but along the coast the Koreans increase. They often dress like Russians, but still they are more often dressed in the traditional white of the native clothing.

The breeding of livestock is pursued in the entire area: cows,

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

137 appear extensive moss steppes, which have a similar character to that of the tundra, and these regions have an almost polar appearance. The south, on the other hand, has milder traits in places. Since rich
135 coal and oil supplies have been discovered in very recent times and since their exploitation has begun, the island is sliding more and more into the foreground of economic interest; the population is increasing rapidly and is adapting itself to the island. With this the bad reputation of the island is also beginning to change.

133 According to the relief, Sakhalin is divided into two parts: a larger, mountainous section in the south, and a smaller section in the north which is gently rolling to hilly. The mountainous south consists of two mountain chains, which run in the direction of the island and which are separated from one another by a depression stamped as a longitudinal valley. The depression is drained toward the north by the Tym' and toward the south by the Poronay.

/278/ The eastern mountain range, whose highest elevations are Nevel'skiy Mountain (2,013 meters) and Lopatin Mountain (1,680 meters), is more heavily divided up than the western mountain range, which also is lower generally and whose highest point, the Aimi Yama, reaches only 1,641 meters. In its external impression, the eastern mountain range should be designated as more of a ridge mountain range. It consists principally of metamorphic rock, slate, sandstone, and limestone which is similar to marble. These are the same stones as those which build up the border chains of the mainland. These sedimentary stones are in many places permeated by syenite, diabase, andesite, and basalt. Granite, however, is lacking. In terms of age, most of the sediment of the eastern mountain range is reckoned as Paleozoic. Mesozoic is diffused only in places and then is only slightly developed. It is different in the western mountain range. This is built predominantly from Tertiary layers, beside the older rock. Jurassic and Cretaceous also lay claim to a significant proportion. Cretaceous appears especially in the southwestern part and is diffused in the former Japanese territory. Weathering effects are very great because of the damp climate; they affect especially the parts of the mountain range without forests. The sharper forms and the greater variety in the relief can be traced back for the most part to the varying powers of resistance of the different types of rock. The loamy and gravelly slate weather especially quickly.

The Tertiary deposits, which have a wide diffusion in all of Sakhalin, and the Cretaceous sediments are heavily destroyed. The

133 [137] which consists of recent and post-Pliocene deposits and which for the most part is covered by a tundra vegetation interlarded with bushes. The extent of this plain varies, being largest in the north around Sakhalin Bay. The plain ends in a 2 to 6 meter step which is delineated rather sharply everywhere. With this step the hill country then begins. This hill country as a rule bears a thick taiga consisting of spruces and larches. The watershed regions are scarcely perceptible in the relief, but they show up in thicker and higher forest growth. In places the hill country step also goes to the coast itself and then forms a higher, steep slope, which can reach 15 to 26 meters. (207) Taiga and sea

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, (Odessa, 1923), Vol. II, p. 266.

then come very close to one another.

Schmidt Peninsula, so named in honor of the well-known Sakhalin explorer, forms the extreme northern end of Sakhalin. This peninsula forms in miniature a true model of the geological and tectonic structure of the southern section of the island, with even the intrusive phenomena being the same. Here, too, we find an eastern mountain range and a western mountain range with a depression lying between. In the "Tri Brata," the "Three Brothers," the eastern mountain range reaches a height of 708 meters. For the most part this range declines steeply to the sea, and in the north it forms the rocky Cape Elizabeth, the most northerly point on Sakhalin. The western line of mountains, which likewise declines steeply to the sea, attains a height of only 406 meters. The depression lying in between ends in the north with a lake, which is separated from the sea by a narrow tongue of land. On the land narrows which connects Schmidt [315] Peninsula with the main part of the island lies the oil fields of Sakhalin which today have the richest yield.

Sakhalin's coast is generally but little divided up. In contrast to the more contiguous western coast, the northern coast and the east coast represent typical coasts with alluvial lands and numerous fresh-water lakes. Baykal Bay in the northern part of the island represents [505] the largest fresh-water lake. It can be traveled by coastal ships with a draught of up to 3.5 meters. Here on the eastern side of the bay lies Moskal'vo oil harbor which has a railroad connection to the oil region in the eastern part of the peninsula. Still more strongly marked

is the alluvial land character of the eastern coast, on which there is one fresh-water lake after another, almost lined up in a row. All these lagoons are extremely narrow, but they are up to 160 kilometers long. In contrast to the restless sea, these lagoons permit /280/ a protected water traffic along the coast. Sandy places with dune formations, however, are only rarely to be found here. Mostly vast, tundra-like moss steppes, which consist of peat layers up to 15 meters thick, spread out here on the lower courses of the rivers, and are especially extensive on the Tym'. Here, as on the western side of the island, these steppes are excellent meadow lands for reindeer herds.

The difference in the coastal formation between the western and the eastern parts of the island can be traced above all to the prevailing current. On the eastern side the current goes along the coast toward the south. On the western side a current toward the south prevails within the Tatar Sound on the coast of the continent, while on the coast of Sakhalin an opposing northern current predominates. This northern current, however, as Zhdanko (188) has indicated, does not

188. Zhdanko, M. "Isvlechenie iz doklada v zasedanii I.P.G.O." Excerpts from the Material at the Meeting of the Geographical Society in 1915/, Izvestiia of the Imperial Russian Geographical Society, 1915.

run regularly; rather the current changes in connection with the tides; thus there are only tendencies toward an irregular level coast.

Climatically the low northern part of Sakhalin is the most disfavored, since no limitations are set to the raw influences of the Sea of Okhotsk. Therefore, the appearance of the Daur larch is just as typical here as the appearance of the Ayan spruce. Toward the south in increasing measure the taiga also has deciduous trees of the same type mixed in as are characteristic of the Sikhote-Alin'. A consequence of the damp climate is not only the moss areas near the coast but also the meadows which appear in the more protected flood plains of the rivers. These meadows have a very heavy growth of grass, which in places is 3 to 4 meters high. Senecio cannabifolia and Petastes japonicus should be mentioned as among the principal types represented here. In the mountains themselves the stone birch, Betula ermani, appears as the characteristic tree in the heights as do the spruces and pines. In more protected valleys stocks of pure deciduous trees are no rarity. Worthy of note is the appearance of wild Kuril

•137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 162 231 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 162 The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population here is more agricultural. In general, however, the agrarian economy 433 is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

Tertiary fault mountain range zone of East Siberia. On the one side, 133
this mountain chain is supposed to have been connected with Sakhalin, and on the other it is supposed to appear again in the Taygonos Peninsula, in the western part of the Penzhina depression, and in the northern part of the Anadyr' region. In the coastal region this chain appears characteristically in the Chutnavar Mountains, which stretch in a wide peninsula from west to east and which are separated from the mainland mountain ranges by an extensive valley which runs in the same direction. Through this valley flows the Kaza Tau'. The mainland mountain ranges referred to above are spurs of the Cherskiy Mountain Range, and with their ridges and the valley areas lying in between, they run into the Kaza-Tau' valley almost perpendicularly; thus in a narrow area the opposing construction appears clearly. For the rest the Tertiary mountain chain appears only in island remains, on the Koni and Pyagina peninsulas and then on Taygonos Peninsula.

East of the Yama begins the Kolyma Mountain Range, which from here on stretches toward the northeast parallel to the coast and then in the hinterland of the Taygonos Peninsula turns toward the north-northeast into the interior of the land. But, in contrast with the Dzhugzhur, the watershed lies far from the coast. The mountain range slopes toward the coast and is broken up into individual parts by numerous long and relatively wide erosion valleys, which run almost perpendicular to the coast. Thus the general impression remains the same as in the west between Okhotsk and the Yama, where the spurs of the Cherskiy Mountain Range meet the coast at the same right angle. However, in the coastal region of the Kolyma Mountain Range the valley areas and also the coastal plain are smaller in size. In the background of the Gizhiga Bay, between the Kolyma Mountain Range and the Taygonos Ridge lies an extensive depression, which is filled with Tertiary deposits. In this depression coal-bearing layers have also been discovered in very [135]
recent times; these layers contain industrially valuable deposits of brown coal and lignite. Natural outcroppings of the productive seams are even to be observed on the coast of Gizhiga Bay.

The northern location comes out more and more in the landscape 137
picture of the coastal region east of Okhotsk. The protected valley areas are as a rule covered with good meadows, which offer /289/ usable pastures for cattle and horses and which are also rich in hay fields. The courses of the waterways are followed by meadow bushes and rows of poplars. Birches set in toward the upper courses. The slopes are mostly covered with larch forests, which become light and low in the heights.

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same [505] names. During the summer, connection between these localities is [487] maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities are Orotukan and Khatynakh. For connection with the outside world 491 a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

133 covered with tundra. Thus from the sea the cape looks like a mighty island, which in its layout vividly recalls the rocks of Gibraltar. The northern and also the southern mountain chain consist predominantly of gneiss and granite. In the Anadyr' Mountain Range Mesozoic rocks are already drawn into the faulting, and south of this range Tertiary layers are also drawn in; thus from north to south one encounters more recent mountain formations.

As a consequence of the easier accessibility the coast of the Chukchi Peninsula is very well explored. Shelagskiy Cape on the eastern side of Chaun Bay is approximately 950 meters high. Further to the east the mountains, which are 600 to 800 meters high, fall back and make free a broad coastal plain with lakes and beach formations full of lagoons. These beach formations, however, are here and there interrupted by round humpy mountains, in which the basic stone /291/ projects from alluvial land plains. At Kolyuchin Bay the mountains again go right down to the sea. Cape Serdtse-Kamen' has heights of [64] from 600 to 900 meters. Eight polar stations have been erected on the coast of the Arctic Ocean on the Chukchi Peninsula to observe the climatic and especially the ice conditions for the benefit of shipping. These stations are distributed over the Chukchi Peninsula at almost equal intervals. All are equipped with radio stations and are supplied for the most part by airplane. The eastern and southern coast of the peninsula, where the mountain ridges often go down to the sea, is richly divided by various bays. From Anadyr' Bay, Kersta Bay penetrates farthest into the land. On a side arm of Kresta Bay lies the highest elevation on the Chukchi Peninsula, the Matachingay. With its 2,800 meters it dominates the mountains surrounding it which are 600 to 800 meters high. At its foot andesite appears, and thus one can probably correctly assume the mountain to be a volcano formation.

137 The bulk of the Chukchi Peninsula is covered with tundra, which makes for a very varied picture according to the relief. Swampy depression tundra, interrupted on the courses of the rivers by pasture and birch underwood, appears only in the valleys and plains. Of greater value is the dry mountain tundra, which is covered with good reindeer moss. The mountain tundra traverses the flat ridges of the mountains and insure the existence of the great reindeer herds of the Chukchi. The higher mountain ranges and mountain peaks are completely without vegetation and are richly sprinkled with rock ruins. Growth of trees occurs very rarely. It is limited to individual, protected spots. Only in the valleys opening toward the south into the Anadyr' region do

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated.

361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail.

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The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

133 appearance of a large mountain river. The high banks already here have good larch forests. In the area around the upper course of its left tributary, the Belaya, which comes from the Anadyr' Mountain Range in the north, there are supposed to be, on the other hand, only poplar forests and no larches. Above Markovo, the principal locality in the interior of the region, the wide plain begins. At Markovo, more than 500 kilometers from its mouth, the river lies only 25 meters above sea level, and thus the drop from here on is very slight. The middle course of the river, therefore, extends over a width of up to 1.5 kilometers and includes numerous islands. The depression, especially the central parts on both sides of the river, traverse wide, lightly hilly, moss-covered swamp areas with numerous large and small lakes and river courses with water which scarcely flows. There are
•[131] no forests at all in the depression. West of the Belaya and to the southwest of the basin, the swamp areas here and there still have bushes of alders, poplars, and willows, but toward the east this, too, disappears, and here the landscape picture appears monotonous and can be surveyed over a vast area. Also the spurs of the mountain range and the ridges are mostly flat and covered with a slimy moss covering. Often the mountains still have lakes and brightly iridescent swamp areas on their ridges.

131 To the north of the Anadyr' depression, as was already mentioned with the Belaya, only poplar forests occur in protected places. Larches are generally rare there. Only south of the depression do they also /293/ appear. In the west, on the other hand, i.e., more removed from the damp-cool influence of the sea, larch forests penetrate into the valley areas and onto the slopes much farther to the north. The transition from the depression to the mountains occurs in the same way almost everywhere. As a rule, poplars and willows, but rarely birches, set in first on the river courses, and, widening into a type of gallery forest, these trees accompany the river even into the mountain range. For this the trees take up the valley bottom, while the slopes are already traversed by coniferous forests. The slopes exposed to the winds and the higher ridges, however, are without forests.

132 The fact that the Anadyr' depression opens onto the sea permits the influence of the sea to penetrate far into the land. In the west temperatures of -50° are no rarity, while that degree of coldness appears only as an exception in the east. In summer, on the other hand, the coast is cool and rainy, while in the west there are very warm days. The cool fog which envelopes the coast in summer almost never penetrates into the land, however.

133 flows into the Sea of Okhotsk. In comparison with the Anadyr' region
[137] the climate here in the Penzhina lowland is somewhat milder. The inclination of the ground is greater, and thus the moss steppes widely diffused here are not so very swampy: the larger rivers are accompanied by poplar forests almost everywhere. Toward the mountains there is the same alternation in the vegetation picture as there. At the mouth
361 of the Penzhina lies Kamenskoye, where the coastal steamers land.
563 The capital, Penzhina, itself is a small village lying in the middle of a lonely moss steppe in the interior of the region. Koryak constitute the majority of the small population. They are in part sedentary, living as fishermen in the villages, or they wander as nomads with their reindeer herds on the good grazing grounds of the moss steppes
135 In the Tertiary layers, which fill the Penzhina basin, coal-bearing series have recently been found, which also contain lighter lignite in addition to brown coal of good quality. The deposits are said to stretch almost over the entire Penzhina basin.

133 On the east the Penzhina lowland is bordered by a flat mountain ridge, the Penzhina Mountain Range. The very long moss steppe, the Parapolskiy-Dol, whose character is like that of the Penzhina lowland, stretches on the other side of the Penzhina Mountain Range from southwest to northeast. In the south this moss steppe widens and traverses the entire land narrows which connects Kamchatka with the mainland. Here in the middle of the land narrows the moss steppe reaches a height of 155 meters.

The region between the mouth of the Anadyr' in the north and the land narrows in the south is taken up by a still little known central mountain range, which is usually designated the Koryak Mountain Range, after its principal population. This mountain range fills the entire area as far as the east coast, and its waters in the main empty into the Bering Sea. Traversing the land which is mostly formed like a high plateau are three lines of mountain ranges: the Pal-Mal, the Tingeney, and the Rarytkin Ridge. Like the entire Koryak Mountain Range generally, these three belong to the outer zone of the Tertiary faulting belt and are regarded as a continuation of the Kamchatka Mountain Range. In contrast to the interior which is like a high plateau with a general height of 500 meters, the rivers flowing toward the coast are deeply dug in, and thus from the sea an impression more like a mountain range arises. The bulk of the surface is covered with tundra, only the more protected places and valleys have forests. Reindeer-breeding Koryak inhabit the interior and also constitute the population of the /295/ fishing settlements on the coast.

the schools of salmon which regularly press up the river here in immense masses for the spawning period. 133 [136]

The vegetation of Kamchatka, under the influence of the heavier rainfall and the milder temperatures, has another stamp from that of the forest landscapes along the coast of the Sea of Okhotsk, and in the southern part of the peninsula the vegetation even attains an extraordinarily luxuriant character. The bright, shining green of the deciduous trees dominates the picture, and only in the interior of the Kamchatka valley does the dark color of coniferous forests with Daur larch and silver firs appear. There is on Kamchatka no forest of the type of the Siberian taiga. The characteristic tree here is the birch, and in the first place is the stone birch (Betula ermani) with its gray to red bark. However, the birches never come together in thick stocks; rather they always preserve a certain distance from one another, thus giving rise to a kind of park landscape. Along with poplars, alders, and mountain ashes, the birch covers the entire area of the eastern coast. The landscape here is magnificent when the red fruits of the mountain ash glow out between the various greens in late summer. However, the growth of trees ends on the eastern slopes at a height of 300 meters in the north and at a height of 550 meters in the south. The all too great, cool dampness no longer permits the growth of trees. From the interior of the Kamchatka valley, however, the same birch forest rises to a height of 600 to 750 meters. In the underwood of these forests the Kamchatka honeysuckle (Lonicera edula) is especially worthy of note. Its black-brown fruit is collected in August in large quantities as food by the inhabitants. At heights of 300 to 550 meters the birch forest gives way to the already often mentioned bent wood vegetation, which is especially typical for the mountainous sections of Kamchatka. It consists here of a confusion of entwined branches of creeping alder, Siberian stonebirch, and mountain ash, between which individual rhododendron types grow. These bushes cover whole areas and slopes, and are often so matted that a path through them must be made with an axe, unless one wants to follow a bear path; for the bear has withdrawn into this thicket and is still preserved today in larger numbers. At approximately 800 meters this bush formation ends and is replaced by the zone of the Alpine flora, which generally reaches up to a height of 1,400 meters. The glacier line on Kamchatka lies at a height of 1,500 to 1,700 meters, and thus most of the volcanos have a snow cap, many volcanos are half covered by snow caps, and the Klyuchevskaya Sopka even is covered two-thirds by snow caps. 137 ● 133

133 These volcanos, /299/ projecting far beyond the general level, give the landscape of Kamchatka its peculiar picture.

•137 The bottoms of the valleys, if they are not too very swampy and covered with moss, have luxuriant meadows, which appear especially in the southern part of the peninsula and which offer excellent [231] grazing ground for livestock. The introduction of the breeding of livestock has, therefore, attained the greatest measure here, too. To be mentioned especially as characteristic of the landscape picture are the high-growing plants in these regions, especially the umbrella-shaped "sweet grass" (Heracleum tanatum or Heracleum dulce), [243] which grows up to 4 1/4 meters high and develops a stalk 12 centimeters thick. The natives use the juice of this rapidly growing plant [273] to sweeten their food; the Russians earlier extracted alcohol from the plant by fermentation.

133 Entirely in contrast to the forest and park landscapes of the mountain regions which are rich in vegetation, are the tundra-like 137 moss steppes which stretch in a broad zone along the entire western coast. In the east, on the other hand, these moss steppes form only a narrow rim around the bays. Occasionally these steppes occur also in the valleys of the mountain ranges. These monotonous regions are depressingly dismal and gloomy especially when a veil of fog hangs over them and prevents seeing any distance.

161 The population of Kamchatka according to estimates, scarcely numbered 20,000 in 1914, and the native element was in the majority at that time. But after World War I and up to the present the population has multiplied because of the increased immigration of Russians, and by 1945 the population was given at around 100,000. Thus today the Russians are predominant, constituting approximately 80 percent of the total population. Today their number is estimated to be at least 150,000. The sedentary population is divided among three lines of settlements: the east coast, the west coast, and the Kamchatka Valley.

563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

with islands.

361 The main locality on the west coast is Bol'sheretsk. It is the
228 center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
• 137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

December to the end of April shipping must be stopped completely as a consequence of the ice covering in the area of the islands. Even the most southerly island, Shikotan, is cut off from all traffic with the outside world during this period.

Because of the great stretch of the islands from north to south, vegetation on the Kurils has developed very differently. Of the 768 types of flora established to date on the Kurils, 257 have the base of their development in Japan, and only 45 have the base of their development in Kamchatka and the adjoining mainland. On the northern island tundra vegetation predominates with widely diffused bush covering of Pinus pumila, willow bushes and birch bushes. Trees can develop only in some few protected places. The central islands have the poorest vegetation: these islands mostly are also small and of lesser height, and thus the rawness of the cool sea current can have the strongest effect on them. The southern islands have a relatively rich vegetation. Here (Uruppu, Etorofu, Kunashiri, Shikotan) there already appear forests which are rich in wood and have trees with long trunks. In these forests firs (Picea jezoensis, Picea glehni) and the Sakhalin spruce (Abies sachalinensis) predominate. Mixed in with these trees are oaks (Quercus grosseserrata, Quercus /308/ dentata), beeches (Carpinus cordata), and other deciduous trees. In higher places and in the vicinity of the coast there appear meadow-like grass areas, which occasionally lend an Alpine note to the landscape picture.

Land animals are slight in terms of the number of types. The brown bear and the wolf are in relation to the distribution of the forests. Very numerous are foxes of all types.

The bird world is extraordinarily rich. In this respect the smaller islands above all are distinguished. Migratory birds are rare. They prefer the Salkhalin route for their wanderings. The real wealth of the Kurils are the fish and aquatic mammals, which undoubtedly are poor in terms of the number of types represented but appear in unusual quantities. Among the fish the same types of salmon should be named as were mentioned in the discussion of Kamchatka. Seals stand in first place among the sea mammals, but sea lions and whales also occur. The valuable sea otter has been almost completely exterminated.

The number of permanent inhabitants of the Kurils was around 13,000 before World War II; in the main they were Japanese. Kuril Ainu--the original inhabitants--numbered only several hundred. The

Goldi, Olcha, Orochi

101
563 in the winter dog sleds. The position of the women is difficult.
[342] Polygamy is permitted. Bride purchase remains today. The Goldi live in small settlements of two to twenty houses, which are built out of mud like Chinese fang-tze /Fansen/. Many of them are half sunk in the earth. In the summer, however, the Goldi gladly leaves his fixed house and moves into his original domed tent, which is covered with birchbark or bast mats. In more recent times many Goldi have taken up the cultivation of vegetables, and they also breed pigs and chickens. The Samaghir, who live on the Gorin, a left tributary of the lower Amur, can be named as relatives of the Goldi. Their culture corresponds to that of the Goldi, but many expressions in their language indicate that they formerly were reindeer breeders. At present they devote themselves exclusively to fishing and hunting. Further downstream live the Olcha, who have also spread to the coast of the Tatar Strait and to Sakhalin. On Sakhalin they call themselves the Orok. The Olcha are also hunters, fishermen, and dog breeders. However, in contrast to the semi-nomadic Goldi, they are sedentary, and they all pursue agriculture in slight measure. Various signs indicate that they also were once reindeer breeders as their relatives, the Orok on Sakhalin, still are today. The total number of Olcha and Orok can scarcely exceed 2,000. More numerous--around 2,500--are the Orochi, who are also often called Udekhe (after the river Udekhe). Split up into numerous small groups, they live in the valleys of the middle and southern Sikhote-Alin' and also on the side toward the sea and the Ussuri. Many of
[177] them, especially in the south, are under Chinese influence and speak, reside, and live in a Chinese fashion. However, in the heart of Sikhote-Alin' they have remained rather pure and still live as true forest people, as Arseniev described them, and they show pronounced
[141] Tungus traits. The men on the average are 1.60 meters tall, and the women 1.45 meters. Their small hands and feet are striking.
[301] Like the Goldi they once wore ear and nose rings, and this custom still exists among the Orochi-Udekhe, although only among the
[342] women. They still live in pointed tents in contrast to the domed tents of the Goldi, in which the tent poles are bent together to form a dome and which recall, in their form, the yurts of the Mongols. On long trips, however, the Orochi did not take his tent along, since the tent was too burdensome for him; instead, while he was on his way, he built a simple protective tent out of twigs. The pure Orochi is only a hunter and fisherman. The social order of this people is

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts.

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds.

Koryak, Kamchadal

101 563 together in villages in crudely constructed wooden houses. The leather boats, which they still use for hunting and fishing, are disappearing more and more. The Reindeer Koryak have also already grown far from their original culture. They are primarily reindeer breeders and own large herds. They live nomadic life wandering between the valley regions protected from the wind in the winter and the gnat-free mountainous tundra in the summer. [342] The square winter hut, which is built from wood and is half sunk in the earth, is built in imitation of the Russian house. They recall the old pit dwelling of Europe. Only in the summer do they use their round, transportable tent, which in its original form consisted of a framework of poles covered with reindeer skins. Today, however, it is often only a type of board shanty, since their wanderings are mostly limited to short stretches. The winter huts as a rule lie on rivers and are permanent constructions. Older people often remain in the winter huts even in the summer, and accordingly the Koryak must be designated as semi-nomadic. [142] Physically the Koryak are medium to short in height with straight black hair, slight growth of hair on the face, and brown-bronze skin color. [281] They make their clothes out of reindeer, wolf and dog skins, and they make lighter clothing for the summer from seal skin. In this /110/ they show a color-happy feeling for art and decorate their clothing with strips of hide of different colors or with leather which they form into various ornaments.

The Kamchadal or Itelmen occupy the southern part of Kamchatka Peninsula, primarily the southern part of the western coast and the Kamchatka valley. Their number earlier must have been much greater, for old reports speak of tens of thousands. [177] Today their number can scarcely be determined since a very large part of the people have been completely Russianized. Many have almost forgotten their own language. It is interesting that numerous Russians in the first wave of colonizers are completely absorbed in the Kamchadal and cannot be distinguished from them at all in mode of living and customs. In some villages on the western coast between Zedanka and Zepochnoye there are still pure Kamchadal, who number around 800 (1930). Often these people alone are designated as Itelmen and contrasted to the Kamchadal. They [342] have abandoned their original earth hut, which can still be encountered in the interior as a base for hunters, and they live in clumsy wooden houses of the Russian type. Fishing is their principal occupation. In the winter, however, they move into the mountains to hunt fur animals. Their houses stand unordered in loose groups on the rivers. When the

from the Oka, a left tributary of the Angara, to the Onon and Argun steppes in the east. At that time they already knew how to extract salt and to process iron. They were known as the trade middlemen between the Tungus hunting peoples and the Chinese. From the Tungus they acquired valuable furs (sable) by barter in exchange for food, especially millet, and these furs they exchanged with Chinese traders for silver and goods from China. In this period, under the leadership of the "Noyone," the tribal divisions had been transformed into fixed, almost state-like organizations, which were in a position to give successful resistance to the Cossacks pressing in in the seventeenth century. The first information which the Cossacks received of Transbaykal described the land as having a wealth of valuable furs and silver. 175

Even the Irkutsk Buryat accomplished vigorous resistance, and in many instances smaller Cossack divisions were defeated or annihiliated. In the course of battles lasting years the Cossacks succeeded in getting a foothold in Transbaykal in individual bases, which were built up into small fortresses. In 1646 Verkhne Angarsk was founded at the mouth of the Upper Angara on Lake Baykal, in 1648 Barguzin was founded, Nerchinsk in 1654, Selenginsk /now: Novo-Seleginsk/ in 1665, Verkhne Udinsk (Ulan-Ude) in 1666. Nevertheless the Buryat did not submit so easily to the will of the Cossacks, whose power did not extend far beyond the bases. Twice great uprisings broke out, and for months the bases were cut off from all contact and exposed to a severe siege. Smaller posts were pillaged, the personnel slaughtered, and the buildings destroyed. However, in the long run the Buryat could not hold out against the firearms and the better organization of the Russians. Many retreated into Mongolia, but from there they again and again /104/ made attacks. Only after the Treaty of Nerchinsk in 1639 did peace return to the land. With that colonization by the Russians began.

The Old Peoples

Three groups can be distinguished among the old peoples presently occupying Transbaykal and the far eastern region: the Mongols, the Tungus, and the Paleoasiatics. The Buryat are the sole representative of the Mongols in Baykal, while the Tungus and Paleoasiatic peoples are distributed over the entire far eastern region. 101 144

The Buryat occupy the region west and east of Lake Baykal.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

ment. They tried to get rid of these credentials as quickly as possible, because they were believed to be bearers of the evil spirit. The resigning chairmen suggested that the local Shamans should be appointed in their place, as they would be more successful in dealing with the spirits. The Party secretary refused to comply with this request, and, after a great deal of arguing, most of the chairmen agreed to retain their credentials, and to resume their jobs.[25] In the novel, *Where the Sukpai river flows*, by Kimonko, which deals with the life of the Udege people, the Shaman is both anti-Soviet and anti-Russian. He expresses his political philosophy in the following words:—'It is better to be doomed than to go to the Russians. The Russians will make soldiers out of us and destroy us to a man. . . The Russians and the Udege are different people. The man of the forest has laws of his own. One must abide by these laws.'[26]

The Shamans preserved their influence throughout the 'twenties' and early 'thirties'. They played an important part in the resistance movement against collectivization. In fact, the terms 'Shaman' and 'kulak' became interchangeable in the official Soviet vocabulary. But this is the usual simplification with which communist anti-religious propaganda operates. An official Soviet analysis referring to the social origin of 300 Shamans showed that between 50 and 60 of them came from poor families (bednota) and only 5 to 10 per cent were 'kulak elements'. More discriminating Soviet writers have stated therefore that Shamans whilst belonging to various social groups constituted 'a reactionary counter-revolutionary force taking sides with native kulaks and semi-feudal elements'.[27]

In addition to collectivization the Shamans obstructed practically every measure taken by the Government in the economic, cultural and sanitary fields. The target figures of the economic plans could not be fulfilled because the Shamans dissuaded the natives from fishing and hunting on certain days or from killing certain animals, for instance walrus. Soviet newspapers and journals were boycotted because the Shamans agitated against their dissemination. Also the new schools in the Far North and the 'kultbazy'* suffered from the sabotage of the Shamans. The latter persecuted and threatened the lives of Soviet teachers, particularly those of Russian nationality.[28] They hindered the re-education of the northern tribes to a more healthy and hygienic life, and intimidated people to such an extent that they did not dare even to go near a Soviet medical station.[29]

Although there is likely to be substance in most of these charges, they

* The 'kultbazy' or 'Cultural Stations' are political, cultural, and scientific research centres which the Soviet régime organized in the Far North. 'Cultural Stations' usually include a boarding school, a kindergarten, crèches, a hospital, a first-aid post, a veterinary station, a metereological station and even a museum. Most 'Cultural Stations' later developed into townships. Out of the fifteen 'Cultural Stations' three were founded in the Far East, one for the Koryaks, one for the Lamuts and the third for Chukchi and Eskimos.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

161 A decree of January 9th, 1950, giving a new list of constituencies for
167 the Supreme Soviet elections established four new constituencies in the Far East. The constituency of Khabarovsk was divided into a town and a country constituency, another new constituency was formed around the Okhotsk Sea and two more constituencies were created on Sakhalin. The total population of the Soviet Far East would accordingly have been, in 1950, in the neighbourhood of 4,200,000. It is, however, unlikely that this figure was really reached. The population of each of the three Sakhalin constituencies, in particular, may be considerably below the 300,000 mark.

III. THE SOVIET FAR EASTERN MYSTIQUE

186 The Soviet régime worked for the strengthening of the Russian Far
208 East not only by mobilizing manpower for its colonization, but also by building up a Far Eastern 'mystique', a nationalistic ideology which flattered national pride to the utmost degree. After the end of the Second World War the Soviet Government, with the help of a large army of historians, writers and poets, promoted a cult of Russian heroes of the Pacific. The object of the new propaganda campaign was to show that Russians had played an outstanding part in the discovery of the Pacific and that, by their past records, they were entitled to much more influence in decisions concerning Pacific affairs than the 'imperialist powers' were ready to grant them. The campaign was also intended to prove that Czarist Russia had failed to grasp the opportunities offered to her in the North-West Pacific and that the Soviet Union defended energetically those national Russian interests in the Far East which the old régime had neglected.

RUSSIAN COLUMBUSES

186 To proceed in a strict chronological order the first 'Russian hero of the
208 Pacific' to be mentioned is Semen Dezhnev. Soviet propaganda
159 popularized him particularly in connection with the tercentenary in 1948 of the discovery of the Behring Strait, which separates Asia from America. The Danish explorer, Vitus Behring, after whom the strait is called, may only have rediscovered it one hundred years after Dezhnev had sailed around the 'nose of Asia', the north-eastern tip of Siberia. As late as the nineteenth century, some outstanding Russian scholars still doubted whether Dezhnev could really be credited with this daring feat. Soviet writers, however, are quite positive about Dezhnev's pioneer role. In 1945 the Chief Administration of the Northern Sea Route issued a popular book on Dezhnev, which waived aside all doubts as to Dezhnev's voyage, and described Dezhnev himself as 'a glorious representative of the all-enduring Russian people'.[88]

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

186 208 159

The next 'Soviet hero' operated on the other side of the Behring Strait, in what, until 1867, was called 'Russian America'. He was the Russian merchant, Grigory Ivanovich Shelikhov, who, in 1784, founded the first permanent Russian settlements in Alaska. Shelikhov's contemporary, the great poet Derzhavin, called him the 'Russian Columbus'. This description, 'Russian Columbus', plays a great part in Soviet propaganda. Because of a feeling of inferiority, *vis-à-vis* the Western World, the Soviet Union has claimed a large number of inventions and geographical discoveries for the Russians, including the discovery of America. Columbus discovered only the American East coast. North-West America was a Russian discovery for which the credit goes in the first place to Shelikhov. It is obvious that the Russians of the Soviet Far East and of Eastern Siberia are most easily attracted by the idea of a 'Russian Columbus'. The Mayor of Irkutsk and the head of the Irkutsk provincial administration have been in the forefront of those who have advocated a systematic publicity campaign for extolling Shelikhov's memory. These two, together with seven other distinguished Soviet citizens, demanded in a letter to the Moscow *Literary Gazette* in October 1950, that Shelikhov should be honoured lavishly on the 155th anniversary of his birthday. In the centre of Irkutsk a Shelikhov monument ought to be erected, they recommended. The Ministry for Cinematography was to produce a film on the 'Russian Columbus', the All-Union Society for the Dissemination of Scientific and Political Knowledge to organize lectures throughout the country about his life and deeds, and the State Publishing House for Geographical Literature was to publish his biography.[39] Since then many of these demands have probably been carried out.

Shelikhov's epithet, 'Russian Columbus', has frequently been challenged. Russian historians of the nineteenth and twentieth centuries considered Shelikhov a braggart who greatly exaggerated his Alaskan exploits, and in particular, the number of Alaskan natives converted to Christianity, so as to get larger subsidies for his trading firm. This poor view of Shelikhov was taken by the pre-revolutionary *Russian Encyclopedia*, and the first edition of the *Soviet Encyclopedia* has not corrected it. According to the latter, Shelikhov was just a 'representative of merchant capitalism' not worthy of major attention. Nevertheless, Shelikhov was a man of vision. He conceived the bold plan of a Russian Empire in the North-West Pacific which would have its granary in California and its naval base in the Hawaiian Islands. Shelikhov also wanted to encourage trade relations with China, Japan and India, and he dreamt of voyages to the Philippines, and even to the North Pole.

Shelikhov's successor, Aleksandr Andreevich Baranov, who started a more systematic exploitation of Russian America by founding the 'Russian-American Company', has also his place in the Soviet pantheon.

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Baranov is venerated as a 'self-sacrificing patriot', and a manual for Soviet teachers gives the following appraisal of him: 'Baranov, this outstanding personality, during twenty-eight years kept the administration of Russian America firmly in his hands. Thanks to his personal courage and keen intelligence he opened up and explored its vast spaces. In a hard struggle with privations, the hostility of militant tribes and the mean intrigues of foreign merchants, he established Russian rule over the huge territories of Alaska and Northern California'.[30] Baranov has also become the hero of an historical novel. The author of the novel, Ivan Kratt, described Baranov and his associates as modest and just people, without prejudice against natives, and loved by everybody with the exception of a few villains.[31]

'RUSSIAN AMERICA'

Among Baranov's collaborators there is one whom the Soviet régime has particularly singled out for posthumous glorification, Ivan Kuskov. Until the beginning of 1948, Kuskov's name was unknown even to many well-educated Russians. The Soviet Government rescued it from oblivion by a propaganda campaign on a large scale, which started in Torma, a small town in the Northern Russian Province of Vologda. The town council of Torma met and decided to erect a monument to Kuskov. The importance of this gesture might have escaped the peoples of the Soviet Union had not the Russian Press explained and advertised it all over the country. Kuskov appeared as the man who, acting under Baranov's general orders, had extended Russian America from Alaska to California. It was he, who, in 1812, had hoisted the Russian flag at the entrance of San Francisco Bay and founded 'Fort Ross', the southernmost Russian-occupied point on the American continent.

Not only the biographies of people like Shelikhov, Baranov and Kuskov have been reinterpreted, but the entire history of 'Russian America'. Alaska is not a conquest of Russian Czarism and imperialism, but belongs to 'democratic Russia', to 'people's Russia'. 'The settlement of Alaska by Russians', said the *Literary Gazette*, 'bore a clearly expressed labouring and democratic character dissimilar to the trade-plundering colonization by the Anglo-Saxons, who recruited their agents from among tramps, adventurists and criminals'.[32] The same point is elaborated in greater detail in what is purported to be a popular scientific booklet on the history, geography and economic conditions of Alaska. There, it is said that the colonization of Alaska was progressive because most of the Russian settlers were peasants, eager to shake off the arbitrary rule of the estate owners. Many people went to Alaska because they found the oppressive atmosphere of the Czarist régime unbearable. Others were sent there because of their political con-

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victions. Not only was the colonization of Alaska itself 'progressive' and 'democratic', the management of the Russian-American Company also was. One of its chief executives, K. F. Ryleev, was executed for his part in the December rising of 1825, and there were other prominent 'Decembrists' among the officials of the Company.[33]

Soviet propaganda has tried to show that Baranov and Kuskov conducted a progressive policy towards the natives of North America, totally different from the Anglo-Saxon or Spanish policy towards Red Indians. This is untrue and has been contradicted by Russian sources themselves. A Russian naval officer, who visited Alaska at the time of Russian occupation, has given the following eloquent description of Baranov's policy towards Eskimos and Aleuts: 'Woe to those who resisted him. He destroyed them mercilessly, deported them to uninhabited islands, deprived them of all means of contact with each other, and mixed people of various tribes so that there could be no malicious conspiracy against the Russians. He was feared by the savages, they considered him as the scourge of heaven. Since they had no chance to revolt they were forced to become his slaves and to forget all about their previous freedom'.[34] As a matter of fact, the Aleuts revolted against Russian rule, as the Russian historian, Shashkov, pointed out in his book on the Russian-American Company, and these revolts led to the extermination of a large part of 'this restless people'. How many Aleuts have perished altogether in the years of Russian rule it is impossible to say. According to the official data of the Russian-American Company there were 8,405 Aleuts in Alaska in 1824, but only 4,363 were recorded in 1859. It would be true to say, therefore, that Russian colonization of Alaska was, from the humanitarian point of view, by no means better than, say, British colonization of Australia in its initial stage.

Nevertheless, Russian policy towards the native peoples of Russian America did have its brighter aspects. Those responsible for it, however, were not Shelikhov, Baranov and the other newly discovered national heroes of Soviet Russia, but people whom the Soviet régime is not very keen on publicizing, the Christian missionaries. It was they who founded the first schools in Alaska, educated a fair number of natives, and even translated religious books into the Aleut language. The most important Russian churchman working in Alaska was Ivan Veniaminov (1797–1879). He was the author of a grammar of the Aleutian language which was published in St. Petersburg in 1846. The 'apostle of Alaska', as the Russian historian, Zernov, calls him, became later, under the name of Innokentii, Metropolitan of Moscow.[35]

The scope of these Russian church activities was, however, very small and one cannot say that the end of Russian rule in Alaska, in 1867, meant in any way a major loss to the native peoples; but of course it was, historically speaking, a great loss for the Russian State. Soviet Russia was

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more conscious of this loss than Czarist Russia had ever been. In Soviet political literature published after the Second World War the abandonment of the Russian outposts in California in the 'forties' and the sale of Alaska to the United States appear not only as regrettable blunders, but almost as acts of treason on the parts of the Czarist Government. 175

THE RUSSIAN PACIFIC

Russian traditions in the Pacific, as presented by Soviet propaganda, are by no means confined to Russian rule over Alaska and 'Fort Ross'. Quite a number of Russian naval expeditions took place throughout the nineteenth century in various parts of the Pacific Ocean. The public, and particularly Soviet youth, has been acquainted with them since 1945 in various ways. Stories about these expeditions have been written anew, in the form of historical novels or of straightforward descriptions, with the obvious object of stimulating national pride. 186 208

From this patriotic Soviet Russian literature centring on the Pacific one can learn a great deal – for instance, that the Russians discovered as many as 400 small Pacific islands, more particularly those belonging to the Paumotu Archipelago in the South-East Pacific, and some of the Marshall Islands. All these islands had been named after Russian generals in the war against Napoleon, and other famous Russian historical figures. Some of the Russian names still persist. Thus the, Lisiansky Island, a possession of the U.S.A., east of Midway Island, bears the name of a well-known Russian seafarer, and east of Samoa there still exists a Suvorov Island belonging to Britain. Also, the big island of New Guinea has important Russian associations. Russians are not credited with its discovery, it is true, but it was a Russian scholar to whom was due the first detailed description of the Papuan people. The Russian explorer, Miklukho-Maklay (1846–88), spent some time with the Papuans. The result of his observations was included in his diaries, which were not published until the Soviet régime came to power. As the Russian geographer, L. S. Berg, puts it, Miklukho-Maklay died before he succeeded in writing his fundamental scholarly works, but, even so, he is highly honoured in the Soviet Union. After all, he was the first Russian to demand that Russia should have a colony in the Pacific.[36] The Institute of Ethnography of the Academy of Sciences has been called after him and a play 'White Friend' has been produced in which he is the central figure. He appears there as the 'champion of black and coloured peoples enslaved by the colonizers of the West'.[37] 186 208 103

'NEVELSKOY'S IMMORTAL FEAT'

For Soviet patriotic ideology one historic personality is more important 186 208 159

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than all those mentioned so far, Admiral Gennady Ivanovich Nevelskoy (1813–76). The entire modern Russian Far Eastern policy goes back to his geographical discoveries. They resulted in the Russian annexation of the entire Lower Amur region up to the Ussuri confluence, as well as in the Russian seizure of Sakhalin. Until Nevelskoy's expedition, the Amur was not recognized as a 'useful' river and a channel of Russian expansion, nor was it known that Sakhalin was an island and not a peninsula. Nevelskoy, who had sailed from Kronstadt across the Atlantic and the Pacific, on August 13th, 1850, hoisted the Russian flag at the point of the Amur estuary which later became known as the town Nikolayevsk Amursky. Hence, the Amur region became the only part of Russia which was annexed by a naval expedition. Nevelskoy's 'immortal feat' enabled the Russian Empire to concentrate in its Far Eastern policy on areas close to the Chinese border, instead of using up its efforts in the distant Kamchatka or even Alaska. On the one-hundredth anniversary of Nevelskoy's appearance in the Amur estuary, the Soviet régime expressed its appreciation of the courageous seafarer in no unmistakable terms. A monument was erected in his honour in the town of Nikolayevsk and a number of popular books were published on the occasion. The Publishing House of the Central Committee of the Communist Youth League, 'Molodaya Gvardiya', brought out an historical novel largely dealing with Nevelskoy, and the State Publishing House for Çultural and Educational Literature produced a biography of the admiral.[38]

PORT ARTHUR

The gallery of heroes of the Russian Far East would be incomplete without mentioning the defenders of the Russian fortress Port Arthur during the Russo-Japanese War. When Port Arthur fell, Lenin wrote that the Russian proletariat had every reason to rejoice at 'progressive and advanced Asia inflicting an irreparable blow on backward and reactionary Europe'. When looking back on the defence and doom of Port Arthur, Stalin's Russia, however, takes no guidance from Lenin, but from the son of a Czarist officer, Stepanov, who, in 1905, belonged to the garrison of the besieged fortress. This man published, in 1944, an historical novel on Port Arthur which earned highest praise in the most authoritative Soviet circles. The book, which also served as the basis of a play, was, in the first place, a tribute to two great Russian patriots, Admiral Makarov, Commander of the Russian Pacific fleet and General Kondratenko, the main embodiment of the spirit of resistance in Port Arthur. Stepanov did not consider that the defence of Russia's naval base in the Pacific was merely an imperialistic affair. For him there existed the most intimate link between Port Arthur and the entire Russian people. This he expressed by letting General Kondratenko

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make the following appeal to his soldiers: 'Behind us has been left but a narrow strip of Russian land with the town of Port Arthur. *This is our Russian town*: for its construction we have spent millions of our national income and invested a great amount of work. You yourselves have worked to build up the fortifications and batteries. And besides, in Port Arthur is our Fleet. We have to defend stubbornly our positions. The whole fatherland is following the course of the war and the defence of Port Arthur with breathless attention. Let us give all our forces, and if necessary, our lives in order to uphold in dignity the glory of the Russian arms in the Far East'. The book from which these lines are quoted was an ideological preparation for the re-establishment, in 1945, of a Russian naval base in Port Arthur, 'the town of Russian glory', as it is usually referred to.

SERGEY LAZO

The Soviet régime itself has not been able to make any substantial addition to the impressive gallery of heroes of the Russian Far East from Dezhnev to Admiral Makarov. Such 'heroes' as there emerged under Soviet rule, Marshal Blyukher in particular, were liquidated by the Cheka-G.P.U.-N.K.V.D. There is only one important exception to this rule the guerilla leader of the Civil War in the Far East – Sergey Lazo. Lazo was an officer of the Czarist army who went over to the revolutionary camp and joined the Bolshevik Party in the middle of 1918. He fought courageously against the White Guards and the Japanese in the Pacific coastal areas. In 1920 the latter burnt him alive in Vladivostok when he was only twenty-eight years old.

The way in which Lazo died predestined him to become not only a hero of the Soviet Far East, but also a symbol of Russian resistance to Japanese militarism and imperialism. Whenever the name of Lazo was mentioned – in newspaper articles and history books, in songs and in plays – it was meant as a challenge to Japan. But as history in the Soviet Union is always rewritten and reinterpreted in accordance with the propaganda interests of the moment, the personality of Lazo has undergone a revaluation. After the Second World War he became an anti-American figure as well as being an anti-Japanese one. According to an up-to-date version of Lazo's biography, the responsibility for his death lay jointly with the Japanese and the Americans. He was killed 'with the knowledge and agreement' of the American interventionists.[39] A book which prominently featured Lazo's part in the political and military events that took place in the Russian Far East in 1918, N. Kolbin's *Partisans* (*Partizany*), was rewritten with the express purpose of denouncing American intervention. The first edition of the book, which the Far Eastern state publishing house 'Dalgiz' brought out in

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1948, had only been anti-Japanese. In response to criticism in the official press the author produced, in 1951, a second edition of the same book into which a number of anti-American passages had been inserted.[40]

The interpretation of the personality of Lazo underwent a change in another direction also. Originally, Lazo appeared in Soviet propaganda as an international communist fighting for the victory of the World Revolution in the Far East. As time went on this international aspect was pushed into the background, and Lazo was transformed into a patriotic Russian, although, being a Moldavian of Swiss extraction, he had not a drop of Russian blood in his veins.[41] The favourite quotation which Soviet propagandists of the later period picked out of Lazo's statements reflects indeed a most patriotic frame of mind: 'We shall fight with our lives for the homeland against foreign invaders. For this Russian land on which I am standing now we shall die and shall not give it up to anyone'.[42] It must be admitted that the Russian patriot, Lazo, appeals much more than the communist guerilla leader. A man like Lazo would have become a national hero anywhere in the world, for a person who is killed by foreign invaders under dramatic circumstances always occupies an honourable place in the history of his nation.

These few examples may suffice to characterize the new Pacific 'mystique' which the Soviet régime has created. The whole Russian people is to be indoctrinated with the new Pacific ideology, but in the first place, this ideology is intended as a moral equipment for the Russian settlers on the Pacific coast. They are to be made more sure of themselves, and more ready to overcome difficulties by instilling into them the proud feeling that they are the successors of Dezhnev and Shelikhov, of Kuskov and Nevelskoy, and also, of course, of Sergey Lazo.

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demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[25] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[26] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[27] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

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161 167 A decree of January 9th, 1950, giving a new list of constituencies for the Supreme Soviet elections established four new constituencies in the Far East. The constituency of Khabarovsk was divided into a town and a country constituency, another new constituency was formed around the Okhotsk Sea and two more constituencies were created on Sakhalin. The total population of the Soviet Far East would accordingly have been, in 1950, in the neighbourhood of 4,200,000. It is, however, unlikely that this figure was really reached. The population of each of the three Sakhalin constituencies, in particular, may be considerably below the 300,000 mark.

III. THE SOVIET FAR EASTERN MYSTIQUE

186 208 The Soviet régime worked for the strengthening of the Russian Far East not only by mobilizing manpower for its colonization, but also by building up a Far Eastern 'mystique', a nationalistic ideology which flattered national pride to the utmost degree. After the end of the Second World War the Soviet Government, with the help of a large army of historians, writers and poets, promoted a cult of Russian heroes of the Pacific. The object of the new propaganda campaign was to show that Russians had played an outstanding part in the discovery of the Pacific and that, by their past records, they were entitled to much more influence in decisions concerning Pacific affairs than the 'imperialist powers' were ready to grant them. The campaign was also intended to prove that Czarist Russia had failed to grasp the opportunities offered to her in the North-West Pacific and that the Soviet Union defended energetically those national Russian interests in the Far East which the old régime had neglected.

RUSSIAN COLUMBUSES

186 208 159 To proceed in a strict chronological order the first 'Russian hero of the Pacific' to be mentioned is Semen Dezhnev. Soviet propaganda popularized him particularly in connection with the tercentenary in 1948 of the discovery of the Behring Strait, which separates Asia from America. The Danish explorer, Vitus Behring, after whom the strait is called, may only have rediscovered it one hundred years after Dezhnev had sailed around the 'nose of Asia', the north-eastern tip of Siberia. As late as the nineteenth century, some outstanding Russian scholars still doubted whether Dezhnev could really be credited with this daring feat. Soviet writers, however, are quite positive about Dezhnev's pioneer role. In 1945 the Chief Administration of the Northern Sea Route issued a popular book on Dezhnev, which waived aside all doubts as to Dezhnev's voyage, and described Dezhnev himself as 'a glorious representative of the all-enduring Russian people'.[88]

131 from north to south is almost 1,000 kilometers long, and Kamchatka Peninsula stretches around 1,600 kilometers into the sea from the mainland. These few facts may be enough to give some notion of the vast distances and also the size of the land. The land covers 3,850,000 square kilometers. That is more than fifteen times the size of Great Britain and Northern Ireland or seventeen times the area of France. But this vast area[7] is in European terms practically empty of 161 people; for in one square kilometer taken as the general mean, there 311 are only 1.6 persons--even if estimated population of 6.3 million in 1950 is taken as a basis. That is extraordinarily sparsely settled. However, in order not to give any false notions, it must at the same time be noted that the actual distribution of people is entirely different. In the southern parts there are regions which are much more thickly settled, while in the vast areas away from the transportation lines, especially throughout the north, in areas of many square kilometers only one person is to be found.

The southern regions--Transbaykal, Amur Oblast, Maritime Krai, the greater part of Kamchatka, and also Sakhalin--are completely suitable for accepting people, even though the harsh climate brings certain hardships. But the Russians are more accustomed to bearing such conditions and better suited for overcoming them than any other European people. Thus Transbaykal and the real Far Eastern regions of the Soviet Union offer settlement opportunities with good prospects for the excess population in other /16/ sections. The population has continuously and considerably increased through immigration:

1911	1,723,754
1926	2,304,000
1939	4,039,000
1950	6,300,000

631 The administrative division corresponds approximately with
161 the natural provinces named in the concept "Soviet Far East" although the borders do not coincide exactly. However, in order to be able to use figures and statistics, it is necessary for practical reasons to make the administrative regions equivalent to the provinces. Unfortunately exact data for this purpose are available only for the time of the last census on January 17, 1929. These data give the following figures for the Soviet Far East: /Table on Following page/

7 [i.e. The Soviet Far East — Analyst]

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Administrative Unit	Size	Population
1. Buryat Mongol Autonomous Socialist Soviet Republic	331,400	542,200
2. Chita Oblast	720,000	1,159,500
Transbaykal	1,051,400	1,701,700
3. Khabarovsk Krai	2,572,000	1,430,900
4. Maritime Krai	206,600	907,200
Far Eastern Region	2,778,600	2,338,100
Total for the "Soviet Far East"	3,830,000	4,039,800

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Under the above basic division, the following comparisons can be made. Transbaykal comprises approximately one-twentieth of the total area of the Soviet Union (1939: 21,175,208 square kilometers), but it has only a hundredth of the population. In the Far Eastern region the contrasts are still greater; for in area it has an eighth of the total, but it has only an eightieth of the population in the entire country. Therefore, even in comparison with the Soviet Union there is an extraordinary disproportion between area and population, which indicates that here are special relationships with both geographical and historical bases. These will be discussed in detail later.

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The recent past has brought a change in the administrative division. Two new administrative regions (oblast) were formed, namely Amur Oblast (1948) and Sakhalin Oblast (1947). To the first was attached a part of the old Chita Oblast and a part of Khabarovsk District (Krai). Its size is 360,100 square kilometers. Blagoveshchensk was selected as the capital of the oblast. To Sakhalin /17/ /Map of the Soviet Far East as of 1947:/ /18/ Oblast belongs the entire island (64,750 square kilometers) and the Kurils (15,600 square kilometers); the capital is Yuzhno-Sakhalinsk.

The border separating these from the other parts of the Soviet Union has, however, remained the same. Accordingly, the following administrative units belong to the Soviet Far East at present:

1. Buryat-Mongol ASSR
2. Chita Oblast

memorial. The immigration of additional Koreans, however, began only after the Treaty of Peking, and in this immigration the southern region was their preferred goal. These Koreans always came with their wives and families, and the majority of them were /116/ farmers. They are a valuable part of the population and show especial skill in growing Manchurian plants such as millet, beans, and rice. In addition, they keep cattle as work animals and pigs. They have succeeded in extending the cultivation of rice to the north as far as the Khabarovsk region. Of the approximately 170,000 Koreans (1939) who live in the Soviet Union, around 100,000 reside in the Ussuri region. A part of the remaining Koreans have been resettled in Turkestan where they live as rice planters on the Syr Dar'ya and the Iliysk.

A few thousand Japanese resided in the coastal cities up until World War I, but since then the number has constantly decreased and amounts now to a few hundred at most.

Worthy of mention as a special group are the Jews, who have their own autonomous region west of Khabarovsk on both sides of the right tributaries of the Amur, the Bira and the Bidzhan. Of the entire population, which number 108,400 (1939), approximately half are Jews, who engage in all vocations and who not only come from the Soviet Union but also from other countries.

In addition there are, scattered over the entire region east of Lake Baykal, Poles, Lithuanians, Latvians, Moldavians, Tatar, and others, including Germans; in short there are representatives of all peoples who reside in the Soviet Union. Their total number may be estimated at approximately 20,000 to 30,000.

Distribution, Development, Structure

With the overwhelming vastness of the area and the extraordinarily uneven distribution of the population, figures on the density of population have scarcely any meaning. The main part of the population, comprising about 90 percent, cluster together in a long, extended zone of settlements, which begins at Lake Baykal and stretches along the Amur and Ussuri to Vladivostok. The zone, which is otherwise narrow, attains a greater width in some areas.

In Transbaykal only the river areas of the Selenga and of the Amur are thickly settled, while in between in the area of the Yablonovyy Ridge there is a certain thinning out of the settlements. The valley region of the Selenga, which is occupied primarily by Buryat, attains

361 in some counties a density of 15-20 persons per square kilometer.
161 East of the Yablonovyy Ridge, between Chita and the Argun, there is a second densely populated zone, where the density reaches up to 20 persons per square kilometer in the agricultural area of black earth. The larger northern part of Transbaykal, however, is only very lightly settled, and the wooded wastelands of the plateau area of the Vitim are for all practical purposes not settled at all. Only gold mining has given rise to settlements scattered here and there like dots.

In the Amur area the river itself and the railroad stand out as the guiding lines of the settlement. The narrow area between the two, however, /117/ is not always occupied throughout. In the Zeya-Bureya plain the civilized area then enlarges into an extensive, closed-off plain of settlements; in this plain the landed estates of the former Cossacks lie on the Amur; adjacent to them in a broad band are the cultivated fields of the old settlers, while the new settlers are distributed more on the outer rim. In the Zeya-Bureya plain lies 80 percent of all the cultivated area in the Amur region. In some sections the density of population here, too, reaches 20 persons per square kilometer. East of the Bureya a strip of settlements stretches along the railroad, while a second follows the Amur. In the Khabarovsk area the two meet. From there the thickly-settled zone winds along the Ussuri to the south. After the Iman, a tributary of the Ussuri, the zone stretches out to a width of up to 250 kilometers and so reaches Vladivostok. In this region between Iman and Vladivostok lies approximately 75 percent of the cultivated area of the coastal region.

On the lower Amur there is no extensive area of settlement. Here the population is concentrated in the two cities of Komsomol'sk and Nikolayevsk and in individual villages which lie along the river's course, just as individual village settlements outside of the settled zones described are generally to be found only along the courses of rivers. Even in 1952 there were only 30 kolkhoz in the region of the lower Amur. On the coast of the Ussuri region there are relatively few colonies. The southern part of this coast is somewhat better settled, since the coast is more open and the treasures of the soil existing abundantly there create opportunities for employment for a larger population. The Ol'ga Bay and its hinterland should be mentioned here especially as being heavily settled.

The interior of Sikhote-Alin' like entire distant north of the Far Eastern area as far as the Chukchi Peninsula is extraordinarily thinly settled. Here the density of population sinks to 0.1 per square

kilometer and lower. Here primarily are indigenous peoples, who wander through the vast, immense land as reindeer breeders and hunters. The sources of food in the sea, however, have also lured many people to the coast, on which, at greater or smaller distances from one another, there can be found again and again fishing settlements inhabited by natives, often intermixed with Russians. In recent times fishing kolkhoz have been founded according to plan in all the favorable places, and they have been occupied by Russians. The most important places are at the same time starting points for land routes into the interior; this applies to Ayan, Okhotsk, Magadan, and Gizhiga on the Okhotsk coast. Kamchatka has increased its population greatly in recent years because of the great rise in fishing and hunting of sea animals. In 1950 the total population was approximately 130,000, which was five times as much as it was in 1926. However, the main stream of immigrants came here, too, to the coastal places, especially Petropavlovsk, Ust'-Kamchatsk, and Bol'sheretsk. Despite the important growth in population, the density of population in Kamchatka has scarcely reached 1 person per square kilometer.

/118/ Sakhalin, too, like Kamchatka has had a large immigration. However, here the immigration is explained above all by the development of the petroleum, coal, and fish industries, all of which are located near the coast; accordingly the population is compressed into these areas, while the uneconomic interior is in large measure uninhabited. Only in the valley of the central depression are agricultural settlements encountered. Southern Sakhalin, which was Japanese until 1945, also shows somewhat the same picture in the distribution of its population. The number of inhabitants exceeds that of northern Sakhalin, but here, too, the population is compressed into the coastal area, whereas the interior, as in northern Sakhalin, is occupied for the most part only by small groups of old peoples such as the Olcha, the Oroki, the Gilyak, and the Ainu. In southern Sakhalin there were in 1940 still 1,500 Ainu, who in numbers rank above the other old peoples. The number of the other remnant peoples scarcely reaches 500. The evacuation of the Japanese has given the Soviet Union the task of filling the land with its own people, and, according to all information available, they have succeeded in this. In the process other people have moved in to the former Japanese settlements, but the spatial distribution remains the same. The numerical changes in the population will be discussed later.

The data of the censuses from 1926 to 1939 are available for

•161 The data of the censuses from 1926 to 1939 are available for
167 observing the general development of the population. According to these the number of inhabitants in the area east of Lake Baykal has increased from 2.3 million to 4,039,800 inhabitants, i.e. 75 percent. By comparing this with the average increase in population in the Soviet Union, which amounted to 15.9 percent during this period and which can be considered equivalent to the natural increase in the population, it can be deduced that in the eastern region the growth through immigration reached the considerable height of 59.1 percent. The individual areas, however, participate very differently in this increase. The increase in the Buryat Mongolian ASSR reached only 39 percent, but that in the Chita area was 73 percent, and in the Khabarovsk area it was even 136 percent. Since resettlement in the Soviet Union is directed by the state, a tendency is shown here to give preferred treatment to the area farthest from European Russia. The coastal district, however, appears to be an exception, for its population increased only 42 percent during this period.

Development of the Population

	1926	1939	Increase in percent	Increase through immigration in percent
Buryat Mongol ASSR	390,000	542,200	39	23.1
Chita Region	670,000	1,159,500	73	57.1
Khabarovsk Region	606,000	1,430,900	136	120.1
Coastal District	638,000	907,200	42	26.1
Total	2,304,000	4,039,800	57.5	59.1

162 /119/ During the same period between 1926 and 1939 a basic change in the structure of the population took place because of the extraordinary increase in the urban part. While the urban part of the population in the Far Eastern region amounted to only 24 percent in 1926, by 1939 it had increased almost to 50 percent. Since Soviet statistics make the concept of urban population equivalent to that of non-agrarian population, a general division by vocation can be deduced from these figures. The Buryat Mongol ASSR has remained predominantly agrarian. The urban share is only 30 percent and even lies below the average for the Soviet Union, which is 32.8 percent. In the three other areas this mean is exceeded and amounts to 44 percent in the Chita region, 45 percent in the Khabarovsk region and even

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The Development of the Population 1939-1950

161 The development of the population after 1939 cannot be followed exactly, since no census has been taken since then and also no other official data have been published on this subject. Incidental data on individual places or regions allow a general tendency to be noted, but they are not sufficient to give a clear picture in terms of figures. The best opportunity for this is provided by the election statistics for 1950. Critical evaluation of these statistics enables us to note the total figures for the population, although to be sure the figures calculated are only approximations and contain concealed sources of error which cannot be avoided. Nevertheless the election statistics must be drawn upon, because, with the lack of other information, they offer the sole opportunity to acquire at least a survey of the development of the population.

The total population of the Soviet Far East amounted to 4,039,800 in 1939, according to the census of that year, and to around 6.3 million (including southern Sakhalin and the Kurils) in 1950. The total population, then, had increased by around 2.3 million persons in this time. While the population increased by 75 percent in the 13 years from 1926 to 1939, the increase in the 11 years from 1939 to 1950 was only 35.6 percent. If the mean natural increase in population in the Soviet Union during the period 1926-1939 (15.9 percent for 13 years, 1.22 percent for one year, 13.42 percent for 11 years) is applied to the Far Eastern region without consideration of the effects of the last world war, the resulting figures show that the 35.6 percent general increase in the population consisted of 13.42 percent from natural growth and 22.18 percent from immigration. Under these conditions the general picture of the population development in the Soviet Far East can be concluded to be as follows:

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1939 population	4,039,800
Natural increase 1939-1950	538,140
Increase through immigration	1,722,060
1950 Total	6,300,000

/121/ Even if immigration from 1939 to 1950 did not attain the measure of that of 1926 to 1939, it is nevertheless significant with its general yearly average of 156,500. Since during the six years of the war (1940-1945) all immigration was probably stopped, most of the settlers must have been brought into the Far Eastern region in the remaining five years and especially after the war; this would make the annual average almost 350,000.

The development of the population in the individual regions can also be given only in general figures. Here the difficulty is encountered that the administrative borders were changed in the years after World War II, and accordingly the data can no longer be compared in all cases. Only the Buryat Mongol ASSR and the Coastal District have remained unchanged administratively, while other regions can only be treated together. 161

Population Development According to Regions

	1939	1950	absolute increase	increase in percentage
Buryat Mongol ASSR	542,200	600,000	57,800	10.7 %
Chita Region Khabarovsk District	2,590,400	4,500,000	1,909,600	73.3 %
Coastal District	907,200	1,200,000	292,800	32.3 %
Total	4,039,800	6,300,000	2,260,200	35.6 %

The above chart shows that the main increase in population occurred in the Chita Region and the Khabarovsk District, while the percentage of increase in the other two regions is lower than the general percentage of increase.

There must even have been some emigration from the Buryat Mongol ASSR. If we apply here the above mentioned percentage of natural increase in population (13.42 percent), then this alone should have resulted in an increase of 72,863. This means that around 15,000 persons must have emigrated from the Buryat Mongolian ASSR in the period from 1939 to 1950. The predominantly agrarian character of this republic--in 1939 the rural population amounted to 70 percent of the total--makes it appear completely possible that this occurred because of the progressive mechanization and technicalization of agriculture. [167]

The absolute increase in the population of the Coastal District from 1939 to 1959 was 292,800, of which 121,750 came from natural increase and 171,050 from immigration. From individual reports on significant increases in industrial production and also from the growth of individual cities (Vladivostok increased by around 100,000, Voroshilov by around 70,000, and Artem has passed the 50,000 mark), it can be assumed with certainty that not only the greater part of the immigration but also /122/ the greatest part of the natural population growth has generally been fed to the industrial sector of the economy.

•161 A comparison with 1939 is not possible for the other regions since the administrative borders have been changed. However, a comparison can be made of the population calculated from the 1947 elections in the republics and other data from January 1, 1949, as Shabad has used them in his Geography of the USSR, in order at least to note the spatial direction and the economic employment of the population increase; for safety it must of course be conceded that both comparative sizes here do not represent exact data.

In comparison with other regions, the new Chita Region has had the smallest increase in population (150,000), of which, however, the city of Chita alone has taken a significant percentage (around 50,000) into its industry. Information on an increase in coal mining, in the production of non-ferrous metals, etc. points to an increase in the working force in industry; since also the expansion of the cultivated area in the Chita Region is difficult, it can be assumed with certainty that the largest part of the population increase has gone into industry. The relationships appear to be different in the Amur Oblast formed in 1948; this oblast includes the Zeya-Bureya plain which is important agriculturally. Although the data here are not entirely clear, there are still numerous indications that the relatively large increase in population has benefited the agrarian sector. From this region, too, come most of the success stories in agriculture, and there is by all means the possibility of expanding the cultivated area. On the other hand, there are only a few reports of new industrial establishments. A part of the population increase has probably been drawn into the lignite fields of Raychikhinsk and Kivdinskiy and the new coal district on the Magdagachi; nevertheless, the Amur Oblast retains its predominantly agrarian character. The capital of this region, Blagoveshchensk, provides an indication in this direction, for it has even decreased its population from 61,205 to 58,761 in the period from 1926 to 1939.

A different picture is seen in the Khabarovsk District, whose total increase in population has been relatively large. Alone the growth of the cities (Khabarovsk has increased by 100,000, Komsomolsk by 80,000, Sovetskaya Gavan' has grown to more than 20,000, Magadan has passed the 50,000 mark, etc.) indicates that here the population increase has flowed primarily into industry. Indeed, if the district's total population increase can correctly be assumed to be 250,000 as indicated by the above-mentioned sources, --the figure is too low in my opinion--then there has even been a migration from the country

to the city. There are, to be sure, reports of the expansion of the cultivated area in the Khabarovsk area, /123/ but increased employment of machinery in agriculture is repeatedly reported in announcements, so that it is undoubtedly possible that manpower has been released from the land. Sakhalin Island shows the most significant increase in comparing the estimates for 1947 (Shabad) with the figures obtained on the basis of the 1950 electorate, for Sakhalin has tripled its population from 300,00 /sic/ to 900,000. It is difficult to find an explanation for this, even if the first figure is regarded as too low and the second too high. Before the war the population of the Russian part of Sakhalin was estimated to be 100,000. During the war new petroleum fields were developed, petroleum and coal production was pushed up a great deal, a new harbor, usable the year around, was built in Okha, and many other things were done. The post-war period brought further economic exertions, and accordingly the population in the Russian part must have increased significantly during this period, perhaps to 200,000 or more. The Japanese part was occupied by 412,000 persons in 1940. For economic reasons arising out of the war the Japanese certainly increased the number of people assigned there, and in the process not only created new jobs but also built up the industrial plants. After theevacuation of the largest part of the Japanese population, the Soviets had the task not only of occupying the land but also of getting the economy back into production. For this an exchange of man for man was not possible; instead the Russians had to resort to an oversupply of manpower. But the difference in the economic system must also be pointed out. To the Japanese who managed their economy rationally the question was the employment of all manpower, while with the Soviets--especially with the political tensions of the present--the principal emphasis is on getting production going again, and the employment of people plays only a secondary role. It should further be noted that in the Japanese population the ratio of men and women was 130:100; the population thus had a colonial stamp to it. It is certain--and isolated data confirm this--that the Soviets have settled families in southern Sakhalin, and accordingly there is a different population structure than existed under the Japanese. All these reasons make it seem understandable if the present population of southern Sakhalin exceeds that of the pre-war period. And in this connection mention should also be made, in conclusion, of the political and military side of this question; for a land filled with people is in a military-political sense a much greater asset than an empty one.

To these inhabitants listed in statistics for Transbaykal and the actual Far Eastern regions must be added another population, which can to a certain extent be designated as invisible, for figures on this population appear neither in official pronouncements nor in any other Soviet statements. These are the work camps, which /124/ play a not unimportant role economically because of their mobility and their massing of manpower. Little exact information can be given in detail on their employment. It is known that there are work camps in Transbaykal and also in the lower Amur region and further that most of the workers are assigned to building the Baykal-Amur railroad and also to gold and other mining installations in the area of the upper Kolyma and also in other places. The existence of the work camps makes it difficult to judge or to determine the human work potential in the individual regions. In no case can they be overlooked.

In conclusion a summary is given of the population in the individual regions according to the calculated level of 1950:

1.	Buryat Mongol ASSR	600,000
2.	Chita Region	1,200,000
3.	Amur Region	900,000
4.	Khabarovsk District	1,500,000
5.	Coastal District	1,200,000
6.	Sakhalin Region	900,000
	Total	6,300,000

Estimated Growth of the Largest Cities

	1939	1950
Vladivostok	206,432	300,000
Khabarovsk	199,364	300,000
Komsomol'sk	70,764	150,000
Voroshilov	70,764	150,000
Ulan-Ude	129,417	150,000
Chita	102,555	150,000
Blagoveshchensk	58,761	60,000
Artem	more than	50,000
Magadan	more than	50,000

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the
361 name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000
[294] inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire
135 Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even
241 in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation
234 of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large
•[161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid
[39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has
[382] a shipyard in which coastal vessels are also built. A modern cracking
[508] installation has been added to the older oil refinery in order to process the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there
[241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

The most important localities on the lower course of the Amur 361 are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has re- [161] ceived its name. By 1939 it already numbered 70,000 inhabitants, [396] and today its population is estimated to be more than 150,000. The city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [377] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial under- takings and promises to become the economic center of the entire 361 area around the lower Amur. Already several years ago the city was 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the dif- ficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

361 low ridges of the Sikhote-Alin' and enters the Muravyev-Amurskiy Peninsula and finally reaches Vladivostok, the main town and the most important harbor of the Soviet Union on the Pacific.

Vladivostok was founded in 1860. In 1872 the base of the Russian Pacific naval fleet was transferred here from Nikolayevsk on the Amur, and since then Vladivostok has been the center of the military power of the land on the Pacific. Economically, however, the city developed only slowly. In 1882 only 5,000 persons lived in the city. At the same time somewhat regular shipping between Vladivostok and the Black Sea harbors of Russia was taken up. However, the city's rise to become the economic center of the land began only after the construction of the Ussuri and Manchurian Railroad. [504] Through this railroad Vladivostok first became an important Pacific harbor, especially in transit shipping, and in this it is a harbor for all of northern Manchuria. The more recent development of the city into an industrial city has also kept pace with its development into an important harbor. In 1897 the city had a population of 21,000 • [161] persons; in 1914 it was 59,000; in 1926 it was 107,980; and in 1939 it was 206,400. At present it is more than 300,000.

361 133 504 The city lies on the well protected and deep bay of the "Golden Horn" at the southern end of the Muravyev Peninsula opposite the large Russkiy Island, which is richly divided up. The peninsula and the island are separated by the "Eastern Bosporus," which extends from the Amur Bay in the west to the Ussuri Bay toward the east. The harbor is unique and one of the best natural harbors in the world, as the designations already indicate. The "Golden Horn" penetrates from the south into the Murayev Peninsula and bends then almost at a right angle toward the east (see map). /273/ /Sketch Map of Vladivostok and the Southern Coast/ 1/ 274/ The north-south section forms the outer bay and is 3 kilometers long; the west-east section constitutes the inner, harbor bay and is 3.2 kilometers long. The width of the "Golden Horn" is 800 to 1,000 meters; the depth in the interior is 10 meters, and at the entrance of the bay it is 28 meters. Mountains surround the bay and protect it from the cold northwest and west winds. Mountains also rise 50 to 100 meters on the Shkota Peninsula, which separates the outer bay from the Amur Bay. Nevertheless, 361 504 the harbor freezes for three to four months every year, and throughout the winter three ice breakers are in uninterrupted service to keep the harbor and the entrance free of ice. The outer bay and the western part of the inner bay above all belong to the commercial harbor, while

1/ [Cf. cat. 116, p. 317 -- Analyst]

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated. 361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

133 These volcanos, /299/ projecting far beyond the general level, give the landscape of Kamchatka its peculiar picture.

137 The bottoms of the valleys, if they are not too very swampy and covered with moss, have luxuriant meadows, which appear especially in the southern part of the peninsula and which offer excellent [231] grazing ground for livestock. The introduction of the breeding of livestock has, therefore, attained the greatest measure here, too. To be mentioned especially as characteristic of the landscape picture are the high-growing plants in these regions, especially the umbrella-shaped "sweet grass" (Heracleum tanatum or Heracleum dulce), [243] which grows up to 4 1/4 meters high and develops a stalk 12 centimeters thick. The natives use the juice of this rapidly growing plant [273] to sweeten their food; the Russians earlier extracted alcohol from the plant by fermentation.

133 137 Entirely in contrast to the forest and park landscapes of the mountain regions which are rich in vegetation, are the tundra-like moss steppes which stretch in a broad zone along the entire western coast. In the east, on the other hand, these moss steppes form only a narrow rim around the bays. Occasionally these steppes occur also in the valleys of the mountain ranges. These monotonous regions are depressingly dismal and gloomy especially when a veil of fog hangs over them and prevents seeing any distance.

161 The population of Kamchatka according to estimates, scarcely numbered 20,000 in 1914, and the native element was in the majority at that time. But after World War I and up to the present the population has multiplied because of the increased immigration of Russians, and by 1945 the population was given at around 100,000. Thus today the Russians are predominant, constituting approximately 80 percent of the total population. Today their number is estimated to be at least 150,000. The sedentary population is divided among three lines of settlements: the east coast, the west coast, and the Kamchatka Valley.

563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

The coasts are rocky and steep and are torn up into adventurous, picturesque forms by the heavy breakers. Thus the coasts project a romantic-dim picture in the fog. Thousands of birds make their home on the rocks. 133

The Commander Islands have become famous for the catching of sea otters (seals) there, but this wealth is almost completely destroyed today. The 600 inhabitants, which consist of a mixture of Aleuts, Russians, Eskimos, Kurils, etc., live almost exclusively from what the sea offers them. On the land itself foxes are hunted. 225 161 224

The Kurils

The island garland of the Kurils came to the Soviet Union after the end of World War II. These islands are not too well known, and therefore somewhat more space is to be devoted to them. 133

The Kurils, along with Hokkaido and Kamchatka, form the most northerly arc of the outer frame of the east Asiatic continent. The Kurils represent a connection between the volcanic massif of Hokkaido Island and the volcanos of Kamchatka. To the island chain belong 36 islands which are larger in terms of area, 20 smaller islands, and many uninhabitable rocks, which often barely project from the sea. According to the local division of the islands, the Kurils can be divided into a 1,200 kilometer long main chain, which begins in the north with Shimushu Island and ends with Kunashiri Island off Hokkaido, and into a second, parallel chain, which, however, is only approximately 100 kilometers long. This shorter chain begins at Hokkaido with Nemuro Island, stops with Shikotan Island, and lies east of the main chain. The entire area of the Kurils is given at 15,600 square kilometers, of which 40 percent is on the four largest islands, namely Etorofu, Paramushiru, Kunashiri, and Uruppu. The most northerly island in the chain, whose name is Araito, lies under 50° 56' N latitude, while the most sourtherly lies under 43° 26' N. The Kurils, therefore, lie approximately at the latitude between Leningrad and Burgas in Bulgaria.

/304/ The understructure of the Kurils rises like a mountain ridge from the floor of the sea, whose highest parts project beyond the surface of the water as islands. The slope of this submarine ridge has various forms. Toward the Sea of Okhotsk it declines relatively steeply to a depth of 3,000 meters (the greatest depth is 3,374 meters). The slope toward the Pacific is bigger, for here the Kuril deep sea

132 December to the end of April shipping must be stopped completely as a consequence of the ice covering in the area of the islands. Even the most southerly island, Shikotan, is cut off from all traffic with the outside world during this period.

137 Because of the great stretch of the islands from north to south, vegetation on the Kurils has developed very differently. Of the 768 types of flora established to date on the Kurils, 257 have the base of their development in Japan, and only 45 have the base of their development in Kamchatka and the adjoining mainland. On the northern island tundra vegetation predominates with widely diffused bush covering of Pinus pumila, willow bushes and birch bushes. Trees can develop only in some few protected places. The central islands have the poorest vegetation: these islands mostly are also small and of lesser height, and thus the rawness of the cool sea current can have the strongest effect on them. The southern islands have a relatively rich vegetation. Here (Uruppu, Etorofu, Kunashiri, Shikotan) there already appear forests which are rich in wood and have trees with long trunks. In these forests firs (Picea jezoensis, Picea glehni) and the Sakhalin spruce (Abies sachalinensis) predominate. Mixed in with these trees are oaks (Quercus grosseserrata, Quercus /308/ dentata), beeches (Carpinus cordata), and other deciduous trees. In higher places and in the vicinity of the coast there appear meadow-like grass areas, which occasionally lend an Alpine note to the landscape picture.

136 Land animals are slight in terms of the number of types. The brown bear and the wolf are in relation to the distribution of the forests. Very numerous are foxes of all types.

The bird world is extraordinarily rich. In this respect the smaller islands above all are distinguished. Migratory birds are rare. They prefer the Salkhalin route for their wanderings. The real wealth of the Kurils are the fish and aquatic mammals, which undoubtedly are poor in terms of the number of types represented but appear in unusual quantities. Among the fish the same types of salmon should be named as were mentioned in the discussion of Kamchatka. Seals stand in first place among the sea mammals, but sea lions and whales also occur. The valuable sea otter has been almost completely exterminated.

• 161 The number of permanent inhabitants of the Kurils was around 13,000 before World War II; in the main they were Japanese. Kuril Ainu--the original inhabitants--numbered only several hundred. The

The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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II. Collected Works With Various Authors

1. Aziatskaia Rossiia /Asiatic Russia/. Collection, processed by the

however, the NKVD appoints the head of Dalstroy, leaving to him the selection of his assistants. Authority is held and exercised solely by Dalstroy, and everybody who represents this authority is appointed by the head of the organization or his assistants acting as his agents. Every inhabited place has a "commandant" who has authority over the territory under his control. Under Dalstroy rules this commandant has the right to inflict the death penalty on all prisoners.

A somewhat different status is accorded to the remnants of the native tribes which form so-called "national districts." They enjoy various privileges and are given assistance by the Soviet Government; however, it should be noted that these privileges and assistance can be considered as such only in comparison with the position of the prisoners. These local tribes number only a few thousand, and even in their national districts they have no real authority to govern themselves.

4) Population: The population of the region[1] is not accurately known, primarily due to the continual turnover of prisoners who are imported by the hundreds of thousands yearly and who die at almost the same rate. Before the discovery of gold and the creation of Dalstroy, the local population could hardly have exceeded 25,000 to 30,000; according to the census of 1926-1927 the population of the Kolyma region was 7,580. It is very unlikely that the number of aborigines has materially increased under the rule of Dalstroy; in fact, during the first period of the Revolution the native population showed a marked tendency to decrease.

However, the total population of the Kolyma region during the Dalstroy administration has grown fantastically, and the only explanation is the importation of prisoner labor. The exact number of prisoners cannot be determined for obvious reasons; however, according to a report by a Soviet seaman who formerly served on ships running between Vladivostok and Magadan the entire Kolyma region is

> "a single concentration camp. Into it have been thrown huge masses of the repressed. How many of them he cannot say exactly.... In his opinion it may be calculated with considerable accuracy that during the years 1937 to 1940 not less than a million and a half persons were brought on steamers from Vladivostok to Magadan; during each navigation season from April to November four Dalstroy steamers (Felix Dzherzhinskiy, Dalstroy, Soviatsia, and Dzhurma) were in operation, each making from 12 to 15 voyages in the course of the summer and bringing from 6,000 to 9,000 persons on each voyage."[1]

(Note: Radio Magadan in a report on 24 October 1955 stated that "Nagayevo port vessels -[Nagayevo is the port servicing Magadan]- have fulfilled their annual cargo delivery plan 105.8%...the seagoing vessels of the Nagayevo maritime port overfulfilled their 8 month cargo delivery plan but failed to fulfill their 9 month plan. The leading place among seagoing vessels is being held by the steamship 'Felix Dzherzhinskiy.' Good results were also achieved by the steamship 'Dzhurma' which is on its way from Nakhodka to the Kresta Bay carrying vegetables, foodstuffs, manufactured goods, fruits, construction and technical materials, and equipment." The interesting feature of this report is the fact that the steamships "Felix Dzherzhinskiy" and "Dzhurma" which were definitely known to be transporting laborers in 1940 are still plying the same route and very likely are carrying the same "freight" because the hulls of these two ships are known to be constructed to carry prisoners, not freight as stated.)

1 Dallin, David J., Forced Labor in Soviet Russia (New Haven, Yale University Press, 1947), pp. 136-137 [i.e., Kolyma - ANALYST]

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466 According to other sources the number of ships in Dalstroy service is higher than the four ships cited above; it has been positively stated that in 1940-1941 five more steamers (Minsk, Kiev, Igarka, Komsomol, and Uritsky) and the icebreaker, "Sakhalin," were in operation with a total shipping capacity of 35,000 passengers. (Note: Local Soviet Far Eastern radio stations which service areas with shipping administrations have been noted to make reference to the Uritsky, and in the course of the past six months a vessel named "Komsomolsk" may be the ship "Komsomol," as included in the ships carrying slave labor. This possible identification is noted because monitoring of local Soviet Far Eastern radio stations has always been plagued with the difficulty of "making out" names of persons, ships, and the like."

It goes without saying that prisoners were also shipped into Kolyma by the northern route--the run from Archangel east through the Arctic Ocean. This route was attempted because during the 1930's Soviet ships carrying slave laborers on the run from Vladivostok to Magadan passed through the Sea of Japan and the Tatar Strait, both of which were constantly filled with Japanese vessels; for obvious reasons, the Russians were not too eager to have the Fascist Japanese circles learn of this Soviet cargo. However, due to the extreme difficulties of navigation along the northern route, successes were few; instances of ships carrying laborers being caught in the ice with no survivors were not few. In summation, even if the northern route is discounted, the importation of 400,000 to 500,000 laborers annually is not impossible.

•161 Recent estimates of the total population of the area[1] have ranged between 300,000 and 1,000,000; however, inspite of the fantastic death rate among prisoners, millions have been imported as laborers, and there is reason to believe that there is approximately between one and one and a half million people in the area.

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655 5) Development of the Kolyma Area (1927-1931): Commercial gold mining really began in the Kolyma fields in 1927, and at first the entire production was in the hands of free agents who ventured into the area. "In 1929, according to official Soviet statements, gold was being panned in three fields,.... There were altogether 65 prospectors working in the three fields, and a total of 108 men living in the adjoining settlements."[2] According to Soviet law at that time, all gold was to be delivered to the government trust, Soyuz-Zoloto (Union Gold); however, no branch of this trust was closer to the Kolyma gold fields than that office in Okhotsk, which was still more than 1,000 miles from the fields. Furthermore, private gold buyers were willing to pay a higher price for gold than was the government which was attempting to keep gold prices on a level with the rising prices of commodities. This situation had the result that a large "black market" in gold arose, and much of the gold, according to Soviet officials, went into the hands of the Japanese, whose fishing boats were almost omnipresent in the Sea of Okhotsk. These fishing boats brought merchandise to sell in the gold fields, and this can be substantiated by the fact that much of the goods in the Magadan area at that time bore Japanese labels.

The Soviet Government found itself faced with two possible solutions to the problem: either it could permit free-lance gold prospecting as had been the case in California and Alaska, or it could invest a large amount of money into the area in an attempt to build up its own resources for extracting the gold. The first measure was hardly feasible, especially by a government whose basic principle was opposition to free enterprise, and the second possibility was practically impossible because the Soviet Union at that time had no money to invest. It was in this manner that the Soviet Government decided to invest its only and largest asset at that time--people. However, since few volunteers were

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[1] [the Kolyma region—Analyst]

[2] Ibid., p. 113.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

known Soviet writer Pavlenko has referred to this problem in one of his novels in the following words, 'From the polar tundra down to Korea everybody dreams of women. Nowhere else do people get married as quickly as there. Widows do not exist in the Far East. Only the oldest women overcome by senility remain single'. There is a lot of truth in what Pavlenko said. The proportion of women in the population of the Far East diminishes the further one goes east. The 1926 census showed that for every 1,000 men there were 962 women in the area just east of Lake Baikal, 918 in the Amur region, 704 in the Pacific coastal region and 689 on Sakhalin island. This is an abnormal situation, though characteristic of the pioneer stage of colonization activities all over the world.

To make the balance between the two sexes more even, a movement was created designed to bring young girls to the F.E.T. It was associated with the name of an ordinary Soviet citizen, a young woman of twenty-two years of age, Valentina Khetagurova-Zarubina. Khetagurova was the wife of a major serving with the 'Special Far Eastern Army'. Her claim to fame was a letter which she addressed to the girls of the Soviet Union. The letter was published on February 5th, 1937, and is an extremely interesting document.[23] Official inspiration had certainly a lot to do with it, but the letter nevertheless had a personal touch, and in some passages the Russian woman triumphed over the communist official. The needs of the Far East, Khetagurova said, were great. 'We need fitters and turners, teachers and draftswomen, typists and accountants – all to the same degree'. In the event of a war Khetagurova promised different kinds of jobs. Women would then be employed as nurses, radio operators and even as machine gunners. She appealed to the personal pride of would-be migrants to the Far East; 'We want only bold, determined people, not afraid of difficulties'. She described the Far East as an exotic dreamland 'where still a short time ago there were only deer, tigers and lions' and where 'wonderful work, wonderful people and a wonderful future' would meet the girls.

More important than all this was the assurance which Khetagurova gave, not expressly, but by implication, namely, that every girl would find a husband in the Far East and possibly even one holding commissioned rank in the army. She told the girls of Soviet Russia her own personal success story: 'In the autumn I made the acquaintance of Major Khetagurov. My life became fuller and brighter when I became married to him. . . .' The Russian girls could not be told more clearly why they should follow the example of Valentina Khetagurova.

The Khetagurova letter had considerable success. By the end of 1937 as many as 70,000 Soviet girls had registered with the authorities as volunteers for the Far East, and many actually went there. They were called 'Khetagurovki' – Khetagurova girls.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

311 The excess of dampness in vegetation season is a handicap even for agriculture and makes difficult the extension of the cultivated areas. New land for cultivation must as a rule be won laboriously from nature by drying it out. More and more the extended Zeya-Bureya Plain and the area along the Amur have become quite thickly settled, and large parts of the famous "Amur Prairie" have been transformed into cultivated land. It is predominantly Russians who live here. The Chinese who immigrated here earlier have been pushed back over the Amur--in part by force. In all the rest of the area, however, /30/ untamed nature dominates the landscape, which is traversed at most by a few Tungus or Russian hunters. A wealth of gold has lured numerous Russians into this wasteland, too, especially in the area around the upper courses of the left tributaries of the Amur. A locally very active gold industry has come into existence, which today is organized by the state and which has drawn even this distant region into the economy.

[162]

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133 The Ussuri country is divided into two completely different parts: the huge mountain mass of the Sikhote-Alin', which fills the entire area from the Bay of Peter the Great in the south to the mouth of the Amur in the north; and the Ussuri-Khanka lowlands, which extend west of the Sikhote-Alin' in the same direction and continue south of the Khanka Lake without marked interruption as far as the Bay of Peter the Great.

The Sikhote-Alin' is a forest-covered, strongly valleyed /zertaltes/ mountain mass, which is divided into several ridges running parallel to the coast. The shapes of the mountains are soft without especially marked edges and projections. More often plateau-like shapes predominate here, too. The heights in general lie between 650 and 850 meters; the valleys, however, are deeply carved out. Rising slowly from the west, the mountain mass descends steeply to the sea and only rarely leaves free a narrow coastal indentation plain on which there arises small, poverty-stricken fishing villages. The nearness of the sea crossed by a cold stream causes a cool, foggy, rainy, unfriendly summer, thus producing similar conditions to those found on the entire coast extending to the north beyond Okhotsk. Swampy valleys and forests dripping with a cool dampness and with a more northern stamp are typical marks of this area.

132 The western side of the Sikhote-Alin' and the Ussuri-Khanka lowlands, on the other hand, correspond more to the Amur 137 country. Warm to hot summers joined with high rainfall and a

strong inclination to marshiness are distinguishing marks for this area. 132, 137
The Sikhote-Alin' stretching parallel to the coast keeps back the coolness and also the fog from the sea and allows the sun to have a stronger effect. Everywhere the more southerly position makes itself apparent. In the forests of Sikhote-Alin' deciduous trees appear more and more in the foreground, increasing toward the south, until finally, in magnificent specimens, they form the sole type of tree.
n the cultivated zone, too, which stretches along the entire lowlands, 311
typically Manchurian-Chinese plants become noticeable in increasing [241]
measure toward the south. Kaoliang and other millet, soya beans, and rice appear noticeably on the scene. There is a change in the 162
population, too. In the northern part of the lowlands, as far as Khanka Lake, Russians and Ukranians predominate; in the extreme south, Chinese and Koreans are in the majority. The Ussuri-Khanka lowland is relatively thickly settled, the Sikhote-Alin' itself, on the [316]
contrary, is in large areas as good as uninhabited, except for some mining areas in the south, where /31/ coal primarily is mined. Native Tungus traverse the Sikhote-Alin' in smaller numbers than in the old days, and in addition there are Russian hunters and Chinese collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional 131
direction. The southern part is traversed by two parallel mountain ridges, which are separated from one another by a relatively wide depression. The eastern mountain chain is shorter but higher, and its peak of 2,013 meters is the highest elevation on the island. Toward the north the mountain ridges flatten out and give way to a hilly plain. The cool, foggy air masses blow unhampered over the land here, while in the south a difference in climate is caused by the mountain chains. The eastern slopes are cool, rainy and unfriendly, while the western side appears somewhat milder. The southern parts of the island, which were Japanese from 1905 to 1945 and only now have again become Russian, are generally more favorable. In terms of its landscape, Sakhalin can be designated a damp, cool, forested mountain country, but in numerous places treeless moss steppes appear, which recall the tundras of the north. Once feared as a Russian prisoners' colony, Sakhalin is advancing economically more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encom- 133
passes, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina Bay in the extreme northeast. In the western part, which stretches

chains traverse it from west to east, and these mountain chains with 133
their spurs in part reach the coast, where they break off sharply. But
this area also does not lack plains, for plains extend from the coast
into the land on both sides of the rivers.

All these areas[1] are either very little settled or are completely 311
uninhabited. Of the Russian coastal settlements only Okhotsk and
Magadan as harbors have a certain importance. Worthy of note is
the reindeer breeding of the Chukchee on the peninsula named after
them.

South of the Anadyr' lowland rises the Koryak Range, which 133
fills the entire area as far as Korff Bay. Some mountain ridges, only
a little separated from one another, traverse the land in a wide arc
from the southern end of the Anadyr' Bay in the direction of the
Kamchatka Mountains. Only near the coast have the rivers dug out [137]
deep valleys; here forest growth appears, while the high areas and
the ridges are covered by pure tundra.

The coast of the Bering Sea has numerous native and Russian [361]
fishing settlements; the hinterland, on the other hand, is occupied
only by small Paleoasiatic remnant peoples, who pursue reindeer
breeding.

Kamchatka Peninsula is one of the most interesting regions
in the Soviet Russian Far East. The relief, which just like Sakhalin
gets its main characteristics from two mountain ridges, is extra-
ordinarily varied, for numerous young volcanos are set on the mount-
ain ridges, and a number of these volcanos are still active. The
Klyuchevskaya Sopka, the highest volcano on the peninsula, rises
from the valley of the Kamchatka River to a height of 4,775 meters
and makes an imposing picture with its ice-capped peak. Because 137
of the abundant rainfall and the mild climate, the plant covering of
the peninsula is very luxurious. On the outer mountain slopes deciduous
forests predominate, only /33/ in the interior of the peninsula do fir-
pine forests appear. The only exception on a larger scale is the west
coast, on which tundra-like moss steppes have developed. In addition 162 361
to numerous Russians who occupy primarily the coastal fishing villages,
the Paleoasiatic Koryak and Kamchadal have remained in the interior.

The volcano belt of Kamchatka continues toward the south
in the island chain of the Kurils, which after World War II went to 133
the Soviet Union along with the southern half of Sakhalin Island.

1 [i.e. the Okhotsk coastal area and the Anadyr' area -- Analyst]

The Russians

563 167 361 The original Cossack settlements formed the basis of the Russian colonization. According to the treaties of Aigun and Peking, the Amur and Ussuri Cossack formations were put next to the Transbaykal Cossack army assigned to the Argun. In the period from 1858 to 1862, 23 such Cossack settlements with 5,000 people came into being on the Ussuri and 75 on the Amur. These Cossack outposts consisted of loosely laid-out villages and also of individual settlements, which were organized in a military fashion for the protection of the border, but which in addition had to maintain themselves economically. For this there was distributed to them large landed property which extended along the Argun, the Amur, the Ussuri and the Suifun along the Chinese border. Successive settlers attached themselves to these strips of settlements, made them more densely populated or extended them. Thus there came into existence, on the one hand, the remarkably long strips of settlements along the border rivers, settlements which extended into the hinterland only where favorable conditions allowed new land to be developed without much work; and, on the other hand, there came into existence among the settlers themselves a certain organization which can be observed in typical characteristics even in recent times. Near the borders on the better land near the rivers sit the old settlers with large pieces of property; mostly these old settlers are descendants of the Cossacks who, after years of fighting, deprivations, and also successes, became enterprising culture pioneers who did not shy from risks, and who represent a powerful, hard, self-conscious race of people. On the other hand, to the side in the interior, mostly on land of slight value, live the the new settlers who came later; they have preserved all the typical characteristics of the East European Russian with his strengths and weaknesses.

563 167 162 Despite various laws favoring emigration of Russian citizens--the first law in this connection was enacted in 1861--/113/ and despite many facilities and much fostering, colonization proceeded only very slowly in the first decades. All recruiting measures had only slight success. The difficult, long land route through Siberia and also the long sea trip frightened many off. Only with the building of the Transsiberian Railway did a stronger stream of immigration begin, and the population east of Lake Baykal was already 1,622,000 by 1911; of these 1,225,000 were Russians and around 20,000 were other Europeans. Of the remaining population of 379,000, the greater part were Buryat, who numbered 205,000, and the remainder was divided between

563 167 162 Chinese, Koreans, and numerous small indigenous peoples. The disorders of the revolution after World War I brought many Russians to the Far East. Planned measures for colonization instituted by the Soviet government contributed to this, and by 1926 the population east of Lake Baykal reached around 2.3 million and had risen to 4,040,000 persons by the time of the last census on January 17, 1939. The increase consisted principally of Russians. By 1939 in the Buryat Mongolian ASSR the Russians had an absolute majority with 52.7 percent (in 1941, 57.2 percent) of the entire population of 542,000. In the Chita region, with a total population of 1,159,500, the number of Buryat and other natives can be estimated at most at 50,000, and in the Khabarovsk and coastal region, with a total of 2,338,100 inhabitants, the percentage of indigenous peoples is only 3 percent.

The main part of the Russians are occupied with agriculture and cattle breeding. In addition, fishing and hunting serve as an additional occupation. The professional Russian hunter, the "Promyshlennik," a real runner type, still hasn't died out. The number working in industry has increased sharply in recent years.

563 361 342 Even here the Russian peasant continues the life he used to lead at home, and he troubles himself here no less than he did there. Accordingly one can often recognize in the type of settlement where the settler came from, even if it was decades and more ago. The Great Russians, especially those from the northern regions, prefer residences on rivers and in wooded areas. Their houses are built in the same block house style of the "izba" they used to live in. Hunting and fishing are very popular with them. The White Russians also prefer wooded areas. The Ukrainians, on the other hand, are mostly better farmers; they are to be encountered in especially large numbers in the Khanka Lake area, which is relatively free of woods, and around Bochkarevo /now: Kuybyshevka/, and they are descended in large measure from Cossacks who had been sent from the Don area. Their houses show the same whitewashed mud walls and are covered with straw like their "khata" in the Ukraine, although there is really no shortage of wood. Although there are often rivers flowing nearby, they dig a well near the house as a rule because well water, as they say, is cooler and more tasty. Woods in /114/ the vicinity of Ukrainian settlements soon are destroyed; the Ukrainian uses not only the axe but also fire against the woods. The Ukrainians are especially successful with cattle raising.

The cities, too, show the usual Russian face. In the center of the larger cities there are, in addition to narrow tenement houses, some

563 also engaged in smuggling gold. In 1900 it came to a catastrophe when the Russian authorities drove all Chinese over the border. At Blagoveshchensk nearly 5,000 perished who were chased with force into the Amur. The building of cities and industry, however, drew them again and again into the country as workers, and many of these remained in the country as settlers or also as frugal artisans. Culturally they have had a very strong influence on the natives, who, like the
[177] Udekhe in southern Sikhote-Alin', have not only taken over the material life of the Chinese but have even given up their language in favor of that of the Chinese. Chinese clothing and the Chinese houses have asserted themselves as far as the Gilyak on the lower Amur and stand everywhere in competition with Russian influence,
[342] which gradually has asserted itself. The Chinese house, the 'fanse,' has mud walls. Its gabled roof is covered with straw. Almost the entire front side is taken up by large windows, pasted over with oil-paper and covered with bars; these windows can be slid out and removed. On the sides and along the back wall there are no windows.
[354] In the interior of the 'fanse' a small stove with an iron boiler lies on each side of the door. Smoke ducts lead from these two stoves under
[352] the sleeping places which built from stone and mud, extend along the walls and fill nearly half the room. This type of plank bed, designated a "kang," is approximately 0.50 meters high. From these the smoke ducts then lead to the chimney, which is likewise made of stone and mud. Because of the danger of fire, the chimney always stands alone and somewhat away from the house. It is not uncommon
[351] for the 'kang' to have its own heating also. The farm buildings are usually attached to the house at right angles, and the square courtyard thus formed is closed off behind by a wall or a fence. The Chinese also like to mark off a rectangular area in front of the house, or to surround their entire lodging with a wall which is often very thick; the natives, however, mostly are satisfied with the house alone, which is often only a wretched, dirty mud hut, whatever the layout.

•[162] Of the 87,999 Chinese who lived in Siberia in 1939, approximately half live in the southern Ussuri region; the remainder are mostly scattered in the cities. The number of women among the Chinese is very slight and amounts to only 6 percent. In the southern Ussuri region, therefore, the number of Chinese-Udekhe half-breeds is large; they are generally designated "tas."

The Korean element in the population is entirely different. Some old villages in the Pos'yet area have existed since time im-

memorial. The immigration of additional Koreans, however, began only after the Treaty of Peking, and in this immigration the southern region was their preferred goal. These Koreans always came with their wives and families, and the majority of them were /116/ farmers. They are a valuable part of the population and show especial skill in growing Manchurian plants such as millet, beans, and rice. In addition, they keep cattle as work animals and pigs. They have succeeded in extending the cultivation of rice to the north as far as the Khabarovsk region. Of the approximately 170,000 Koreans (1939) who live in the Soviet Union, around 100,000 reside in the Ussuri region. A part of the remaining Koreans have been resettled in Turkestan where they live as rice planters on the Syr Dar'ya and the Iliysk.

A few thousand Japanese resided in the coastal cities up until World War I, but since then the number has constantly decreased and amounts now to a few hundred at most.

Worthy of mention as a special group are the Jews, who have their own autonomous region west of Khabarovsk on both sides of the right tributaries of the Amur, the Bira and the Bidzhan. Of the entire population, which number 108,400 (1939), approximately half are Jews, who engage in all vocations and who not only come from the Soviet Union but also from other countries.

In addition there are, scattered over the entire region east of Lake Baykal, Poles, Lithuanians, Latvians, Moldavians, Tatar, and others, including Germans; in short there are representatives of all peoples who reside in the Soviet Union. Their total number may be estimated at approximately 20,000 to 30,000.

Distribution, Development, Structure

With the overwhelming vastness of the area and the extraordinarily uneven distribution of the population, figures on the density of population have scarcely any meaning. The main part of the population, comprising about 90 percent, cluster together in a long, extended zone of settlements, which begins at Lake Baykal and stretches along the Amur and Ussuri to Vladivostok. The zone, which is otherwise narrow, attains a greater width in some areas.

In Transbaykal only the river areas of the Selenga and of the Amur are thickly settled, while in between in the area of the Yablonovyy Ridge there is a certain thinning out of the settlements. The valley region of the Selenga, which is occupied primarily by Buryat, attains

161 The data of the censuses from 1926 to 1939 are available for
167 observing the general development of the population. According to these the number of inhabitants in the area east of Lake Baykal has increased from 2.3 million to 4,039,800 inhabitants, i.e. 75 percent. By comparing this with the average increase in population in the Soviet Union, which amounted to 15.9 percent during this period and which can be considered equivalent to the natural increase in the population, it can be deduced that in the eastern region the growth through immigration reached the considerable height of 59.1 percent. The individual areas, however, participate very differently in this increase. The increase in the Buryat Mongolian ASSR reached only 39 percent, but that in the Chita area was 73 percent, and in the Khabarovsk area it was even 136 percent. Since resettlement in the Soviet Union is directed by the state, a tendency is shown here to give preferred treatment to the area farthest from European Russia. The coastal district, however, appears to be an exception, for its population increased only 42 percent during this period.

Development of the Population

	1926	1939	Increase in percent	Increase through immigration in percent
Buryat Mongol ASSR	390,000	542,200	39	23.1
Chita Region	670,000	1,159,500	73	57.1
Khabarovsk Region	606,000	1,430,900	136	120.1
Coastal District	638,000	907,200	42	26.1
Total	2,304,000	4,039,800	57.5	59.1

• 162 /119/ During the same period between 1926 and 1939 a basic change in the structure of the population took place because of the extraordinary increase in the urban part. While the urban part of the population in the Far Eastern region amounted to only 24 percent in 1926, by 1939 it had increased almost to 50 percent. Since Soviet statistics make the concept of urban population equivalent to that of non-agrarian population, a general division by vocation can be deduced from these figures. The Buryat Mongol ASSR has remained predominantly agrarian. The urban share is only 30 percent and even lies below the average for the Soviet Union, which is 32.8 percent. In the three other areas this mean is exceeded and amounts to 44 percent in the Chita region, 45 percent in the Khabarovsk region and even

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51 percent in the coastal district. The increase in the urban section of the population indicates that immigration which formerly served predominantly to foster agrarian colonization, now serves the industrial build-up more.

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The increase in the urban population is made graphic in the growth of cities. In 1939 there was a total of seven cities with more than 50,000 inhabitants; except for Blagoveshchensk, they all increased in size, as follows:

	1926	1939	Increase or decrease in percent
Ulan-Ude	29,918	129,417	+ 347.5
Chita	61,526	102,555	+ 56.7 /sic/
Blagoveshchensk	61,205	58,761	- 4.0
Komsomolsk	---	70,764	---
Khabarovsk	52,045	199,364	+ 283.1
Voroshilov	35,344	70,628	+ 99.8
Vladivostok	107,980	206,432	+ 91.2

Almost a quarter (22 percent) of the entire population of the Buryat Mongol ASSR lives in Ulan-Ude. The city of Chita, however, contributes only 9 percent to the population of the region. Here the urban-industrial population is distributed among numerous places. In the Khabarovsk region the three cities Blagovshchensk, Khabarovsk, and Komsomolsk together comprise only 23 percent of the total population and something more than half the urban part of the population. Komsomolsk is a new establishment as a city and did not exist in 1926. In the coastal district the relations are similar to those in the Buryat Republic. Here around 23 percent of the total population is concentrated in Vladivostok alone. Together with Voroshilov, the two cities together comprise 31 percent of the total population. Apart from Chita, then, all the above-mentioned cities are important population centers which stand in contrast to the vast and thinly-settled regions.

/120/ Urban and Rural Population According to the Census of 1939

	Urban Population	Rural Population	Total
Buryat Mongol ASSR	163,425	378,745	542,170
Chita Region	510,900	648,578	1,159,478
Khabarovsk Region	647,653	783,222	1,430,875
Coastal District	464,509	442,711	907,220

/125/ THE ECONOMY

Agriculture

Among the various branches of the economy agriculture stood in the foreground in 1938. Of the entire population 55.8 percent were attached to agriculture; the percentage of those in agriculture in the various regions was as follows: 162

	rural	urban
Buryat-Mongol ASSR	70 %	30 %
Chita Oblast	56 %	44 %
Khabarovsk Krai	55 %	45 %
Maritime Krai	49 %	51 %

In the interval these relationships have changed substantially. The increase in the total population up to 1950 was 35.6 percent, and the bulk of this was in the industrial sector; accordingly the urban, i.e., the industrial population has a majority today in the entire area of the Far East. Among the various regions the Buryat Mongol ASSR has retained its overwhelmingly agricultural character. The same can also be said of the Amur Oblast newly formed in 1948, though this cannot be verified in figures.

The natural conditions for agriculture are completely favorable 241 in the southern parts of the Far Eastern region. All of Transbaykal lies 132 within the 5° May isotherm, and the Amur Oblast is included in the main in the 10° May isotherm. The brief transition from winter to summer lengthens the vegetation period, which is generally sufficient here. The harsh winter, however, limits cultivation, and accordingly summer cultivation predominates. The rainfall causes difficulties. While a heavier rainfall could be desired for Transbaykal, the rainfall in the Amur and Ussuri regions exceeds the amount necessary, and this results in certain restrictions. The great dampness hampers the ripening of the grain in the fields and fosters the appearance of vermin. Water often remains standing on the flat fields and often leads to the rotting of the plants. Accordingly the Russians are forced to give up European 241 flat cultivation /Flachbau/ in favor of furrow cultivation /Furchenkultur/, in which the grain is sown on heaped up earth so that the water collects in the furrows in the ground and can there seep in or flow off /126/.

The method is used with success everywhere in the Far East by the

361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 [255] Vladivostok is not only a harbor city, but it also has developed into an industrial city. In first place here is the fish industry, which, however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [396] Vladivostok has great importance as a naval harbor and a shipyard, [399] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 322 Apart from this fish industry, which is distributed among numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak 162 reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 The Russian population in northern Sakhalin has increased 162 many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population 433 here is more agricultural. In general, however, the agrarian economy is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

kilometer and lower. Here primarily are indigenous peoples, who wander through the vast, immense land as reindeer breeders and hunters. The sources of food in the sea, however, have also lured many people to the coast, on which, at greater or smaller distances from one another, there can be found again and again fishing settlements inhabited by natives, often intermixed with Russians. In recent times fishing kolkhoz have been founded according to plan in all the favorable places, and they have been occupied by Russians. The most important places are at the same time starting points for land routes into the interior; this applies to Ayan, Okhotsk, Magadan, and Gizhiga on the Okhotsk coast. Kamchatka has increased its population greatly in recent years because of the great rise in fishing and hunting of sea animals. In 1950 the total population was approximately 130,000, which was five times as much as it was in 1926. However, the main stream of immigrants came here, too, to the coastal places, especially Petropavlovsk, Ust'-Kamchatsk, and Bol'sheretsk. Despite the important growth in population, the density of population in Kamchatka has scarcely reached 1 person per square kilometer.

/118/ Sakhalin, too, like Kamchatka has had a large immigration. However, here the immigration is explained above all by the development of the petroleum, coal, and fish industries, all of which are located near the coast; accordingly the population is compressed into these areas, while the uneconomic interior is in large measure uninhabited. Only in the valley of the central depression are agricultural settlements encountered. Southern Sakhalin, which was Japanese until 1945, also shows somewhat the same picture in the distribution of its population. The number of inhabitants exceeds that of northern Sakhalin, but here, too, the population is compressed into the coastal area, whereas the interior, as in northern Sakhalin, is occupied for the most part only by small groups of old peoples such as the Olcha, the Oroki, the Gilyak, and the Ainu. In southern Sakhalin there were in 1940 still 1,500 Ainu, who in numbers rank above the other old peoples. The number of the other remnant peoples scarcely reaches 500. The evacuation of the Japanese has given the Soviet Union the task of filling the land with its own people, and, according to all information available, they have succeeded in this. In the process other people have moved in to the former Japanese settlements, but the spatial distribution remains the same. The numerical changes in the population will be discussed later. [166]

The data of the censuses from 1926 to 1939 are available for

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The particular sensitiveness which the Soviet authorities have shown
208 with regard to the Far Eastern Russians since the Second World War can also be illustrated by another fact. Soviet jamming of Western broadcasts started in the Far Eastern territories of the Soviet Union several months before it came into operation in other parts of Russia.

II. THE PROBLEM OF COLONIZATION

THE HISTORICAL BACKGROUND

●167 The great decisive problem which had confronted both Czarist and Russian authorities in the Far East was that of the colonization of the territory. Under the Czarist régime Russian colonization could be roughly subdivided into three periods. The first ran from the annexation of the Amur and Pacific coastal regions in 1858–60 to 1883, the second from 1883 to about 1900, and the third from 1900 until the First World War.

Until 1883, the only way of reaching the Far East from European Russia was to cross the whole of Siberia on horseback, and this meant two to four years' travel. The formidable journey, under very primitive conditions, resulted in complete physical exhaustion which, in a number of cases, compelled the prospective Amur colonists to abandon their original aim and settle down somewhere in Siberia. Those who eventually reached the end of their journey were appallingly weak from starvation, hardship, and the diseases which they had contracted during the journey. To make things worse there was no proper settlers' organization to help them when they arrived. It is not surprising, therefore, that in such circumstances the colonization of the Russian Far East made little progress, and the yearly average number of newcomers in these parts did not exceed 1,000.

The year 1883 saw the opening of the sea route for the use of prospective settlers. Despite the fact that the sea route reduced the journey to a few weeks only, it never became really popular with Russian and Ukrainian colonists, since travelling by sea was alien to their mentality. Nevertheless, several thousands of would-be settlers let themselves be persuaded to board ships in Odessa for Vladivostok, where they received a much better welcome than those who had arrived earlier by the land route; they were fed and housed, given medical attention and provided with farming equipment.

It was only after 1900, with the opening of direct rail communication between Russia and the Far East, that Russian colonization did enter a more active phase. In the initial stage the Trans-Siberian railway line cut the duration of the journey to approximately thirty days. While the first Russian colonists in the Far East had come chiefly from the overpopulated gubernii (provinces) of Kiev, Chernigov and Poltava, the

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inhabitants of over forty-five European Russian gubernii participated in the colonization after the hardships of a long and complicated journey had been alleviated.[14] Migration to the Far East assumed a real mass character, particularly after the Russo-Japanese War, when numbers reached the record height of 76,637 in 1907.

The boom of the migration to the Far East in the last years of the Czarist régime made little difference to the magnitude of the task which the Soviet power had to face. This can be gathered from the fact that in 1926 the total number of inhabitants in the F.E.T. was still below the two million mark, and this included both Asiatics and Europeans. The number of Europeans alone did not exceed 1,600,000, including 1,531,000 representatives of the three main Slavonic peoples of the U.S.S.R. – Great Russians, Ukrainians* and Byelorussians. Thus, the Europeans of the Russian Far East were an insignificant factor compared with the masses of China and Japan living at Russia's doorstep. We shall see now by what means the Soviet Government tried to change the situation and what success it achieved in its endeavours.

COLONIZATION BY CONVICTS

Colonization by convicts is neither a Soviet nor a Russian invention. It has been practised elsewhere, for instance, in Australia, but there it came to an end in 1838. In Russia, more particularly in the Russian Far East, colonization by convicts is not only flourishing at the present time, but it may not even have reached its maximum expansion. Certain remote Soviet Far Eastern territories have absorbed especially high numbers of forced labourers. Consequently, the colonization of the vast area which forms the hinterland of the Okhotsk Sea is almost exclusively due to convicts working under the supervision of the M.V.D. (previously N.K.V.D.).

* According to the 1926 census the Ukrainians in the Far Eastern Territory numbered 315,000 and the Byelorussians 41,000. There are particularly important Ukrainian settlements near the town of Blagoveshchensk, as well as at several points along the railway line running from Khabarovsk to Vladivostok, parallel to the Chinese-Soviet border. The Soviet régime provided Ukrainian language schools for the Ukrainian settlers and founded as many as seventeen Ukrainian 'National Districts' in various parts of the F.E.T.

Ukrainian nationalists refer to the entire Soviet Pacific coastal area as the 'Green Wedge' (Zeleny Klin) as distinct from the 'Grey Wedge', which is the Ukrainian settlers' area in Northern Kirghizistan and Southern Kazakhstan. These nationalists are inclined to consider the Soviet Pacific region a Ukrainian and not a Russian national possession. Indeed, the *Ukrainian Encyclopedia*, published by Ukrainian scholars of Eastern Galicia during the inter-war period, described the 'Green Wedge' as a 'Ukrainian colony on the Pacific Ocean'. The *Encyclopedia* estimated that 30 per cent of the population of the 'Green Wedge' were Ukrainians, against 52 per cent 'Muscovites', i.e., Great Russians. (*Ukrainska Zagalna Entsiklopedia*. Lviv-Stanislaviv-Kolomiya, 1935, vol. ii, pp. 42–3.) The importance of the 'Ukrainian problem' in the Soviet Far East must not, however, be overestimated. The dividing line in the Far East does not run between the various groups of European colonists but between Europeans and Asiatics.

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316 655 (previously N.K.V.D.). Under the general direction of the latter a powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

635 625 The activities of the Dalstroy are many-sided. The 'Mining Administration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of [461] 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

167 361 The colonization activities of Dalstroy have changed the character of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

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167 361 estimated at 50,000–70,000 inhabitants. Official Soviet sources, while glossing over the strange origin of Magadan, have described it as an important cultural centre, including several houses of culture, dozens of clubs, cinemas, libraries, and two theatres, one for drama, the other for musical comedy. Former prisoners who passed through Magadan have asserted that the actors of the drama theatre were convicts, but Soviet sources of more recent date declare that they were recruited from Moscow drama schools. By December 1952, Magadan had grown large enough to deserve administrative promotion. A decree of the Presidium of the Supreme Soviet transformed it from a district town into a provincial town.[16]

Magadan is the largest locality which owes its existence to Dalstroy, but there are others further inland. One of them is Atka – a name which, at the first glance, seems to have an exotic Asiatic flavour, but is in reality an expression of the unromantic technological mind of Soviet Russia. It is simply an abbreviation of 'Avtotraktornaya Kolonna' (Motor Tractor Column), a tribute to the pioneer role of motorized transport in a territory without a railway. Even in 1946 Atka had large garages and automobile repair works where work never stopped, 'not even for a single minute'. Moreover, Atka produces electrical equipment for the purposes of Dalstroy.[17]

MILITARY COLONIZATION

167 129 241 Another interesting and unusual form of colonization introduced in the Soviet Far East is what might be described as 'military colonization'. Discharged soldiers of the Red Army, artillery and cavalrymen, infantry and members of the signal corps, as well as sailors of the Red Fleet, settled down with their families in the fertile border regions on the Ussuri River. These military colonists formed a kind of peasant militia ready to be called up at any time for the defence of the 'socialist fatherland'. The first 'Red Army' and 'Red Fleet' collective farms were formed in 1931. They soon became the pride of the entire Soviet Far East and the head of the administration of the F.E.T., Krutov, described them as a shining example for the entire Far Eastern peasantry.

Not all demobilized soldiers became agriculturists; some of them remained in the Far East as lumbermen and fishermen and many also worked on the Far Eastern railways, as has already been mentioned. At the beginning of 1938, 5,000 demobilized Red Army men were accepted into the service of railways. They were all provided with houses and small plots, and each of them received a government grant for the purchase of a cow.[18]

167 241 This last point is particularly characteristic of Soviet colonization policy in the Far East. To increase its defence potential in the Far

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Eastern border areas the government made concessions even in the economic sphere. In European Russia only collective farmers were at that time allowed to own a cow as their own personal possession, never industrial or transport workers.

KOMSOMOL COLONIZATION

The military colonization largely overlaps with another special form of colonization in the Soviet Far East, which is carried out with the help of the Communist Youth League, the Komsomol. The Youth League is the backbone of the Far Eastern units of the Soviet Army. Towards the end of the inter-war period 60 to 70 per cent of the soldiers in the Far East were Komsomol members. Hence among the demobilized soldiers, too, there must have been a good deal of 'Komsomol spirit'. The Komsomol influence in the Far East is, however, by no means confined to the army. The entire Soviet Far East has been described as a 'Komsomol Territory'. This is true both in the figurative and in the literal sense. The Soviet Far East is 'komsomolsky' because it is a young pioneer country, but the Komsomol, the Communist Youth League, is also directly connected with the Soviet Far East as one of the principal promoters of its colonization.

Many Communist Youth League members went to the Far East as individuals out of a spirit of adventure and also out of a feeling of patriotic duty. The Komsomol, as an organization, was responsible for two big spectacular actions. One was the foundation of the town Komsomolsk-on-Amur, the other was the movement initiated by Madame Khetagurova.

The history of Komsomolsk goes back to the spring of 1932 when the Central Committee of the Communist Youth League chartered two steamers, *Kolumb* and *Komintern*, which sailed with 400 young people, including a number of Civil War orphans, to the village of Permskoe on the Lower Amur. (The village had been founded as early as 1858 by Russian peasant colonists hailing from the region of Perm in the eastern part of European Russia.) Even the first small party of Komsomol members outnumbered the local population of 160 inhabitants. In the second half of 1932 many more young people arrived, and in December of the same year the All-Russian Executive Committee published a decree which transformed Permskoe into the town of Komsomolsk. The decree read well in the Moscow newspapers, but to the young builders of Komsomolsk it must have appeared utterly unrealistic. At the time when the decree was published they were in a state of despair. The building of the town had had to be interrupted in view of the harshness of the Russian Far Eastern winter, and the inexperience of the new settlers had resulted in great complications. During

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

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known Soviet writer Pavlenko has referred to this problem in one of his novels in the following words, 'From the polar tundra down to Korea everybody dreams of women. Nowhere else do people get married as quickly as there. Widows do not exist in the Far East. Only the oldest women overcome by senility remain single'. There is a lot of truth in what Pavlenko said. The proportion of women in the population of the Far East diminishes the further one goes east. The 1926 census showed that for every 1,000 men there were 962 women in the area just east of Lake Baikal, 918 in the Amur region, 704 in the Pacific coastal region and 689 on Sakhalin island. This is an abnormal situation, though characteristic of the pioneer stage of colonization activities all over the world.

To make the balance between the two sexes more even, a movement was created designed to bring young girls to the F.E.T. It was associated with the name of an ordinary Soviet citizen, a young woman of twenty-two years of age, Valentina Khetagurova-Zarubina. Khetagurova was the wife of a major serving with the 'Special Far Eastern Army'. Her claim to fame was a letter which she addressed to the girls of the Soviet Union. The letter was published on February 5th, 1937, and is an extremely interesting document.[23] Official inspiration had certainly a lot to do with it, but the letter nevertheless had a personal touch, and in some passages the Russian woman triumphed over the communist official. The needs of the Far East, Khetagurova said, were great. 'We need fitters and turners, teachers and draftswomen, typists and accountants – all to the same degree'. In the event of a war Khetagurova promised different kinds of jobs. Women would then be employed as nurses, radio operators and even as machine gunners. She appealed to the personal pride of would-be migrants to the Far East; 'We want only bold, determined people, not afraid of difficulties'. She described the Far East as an exotic dreamland 'where still a short time ago there were only deer, tigers and lions' and where 'wonderful work, wonderful people and a wonderful future' would meet the girls.

More important than all this was the assurance which Khetagurova gave, not expressly, but by implication, namely, that every girl would find a husband in the Far East and possibly even one holding commissioned rank in the army. She told the girls of Soviet Russia her own personal success story: 'In the autumn I made the acquaintance of Major Khetagurov. My life became fuller and brighter when I became married to him. . . .' The Russian girls could not be told more clearly why they should follow the example of Valentina Khetagurova.

The Khetagurova letter had considerable success. By the end of 1937 as many as 70,000 Soviet girls had registered with the authorities as volunteers for the Far East, and many actually went there. They were called 'Khetagurovki' – Khetagurova girls.

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THE 'NORMAL' COLONIZATION

So far only those forms of colonization in the Far East have been mentioned which might be described as typically 'Soviet', ranging from the terror exercised by the N.K.V.D. to the exuberant enthusiasm of the Komsomol.* In addition, the Soviet Government has continued the normal, ordinary colonization which went on in Czarist times. The Soviet Government has provided a number of genuine incentives to make it worth while for Russian peasants and workers to go to the Pacific coastal areas.

The first important special measure for the encouragement of voluntary migration to the Far East was a decree which the government issued on December 11th, 1933. It freed the collective farmers of the Far Eastern Territory for the duration of ten years from all compulsory grain and rice deliveries to the state. It reduced by 50 per cent the compulsory deliveries of meat, vegetables, milk and wool, and in certain distant areas such as Sakhalin and Kamchatka these deliveries were abolished altogether. To the workers and technicians of the Far East the decree of December 11th, 1933, brought higher wages and salaries. The personnel of the Far Eastern mining industry received an automatic rise of 30 per cent, and all other categories of workers and technicians one of 20 per cent. On the same occasion the pay of soldiers of the Special Far Eastern Army was increased by 50 per cent, and that of officers by 20 per cent.

It seems that these 'Stalin Privileges' as they were called were not quite sufficient to attract settlers to the Far East. Another decree was, therefore, published on November 17th, 1937, which aimed chiefly at the encouragement of agricultural colonization. On the strength of that decree, groups of collective farmers going to the Far East were to be exempt from taxation for six years and to obtain state credits for fifteen years. The decree further pledged the state to pay 50 per cent of the costs of all buildings erected by the colonists.

So much for the legislation passed for the encouragement of colonization in the Far East. In practice, things proceeded very often on lines that are reminiscent of Gogol's *Dead Souls*. Each Soviet state authority or building organization in need of manpower for the Far East had its own small recruiting office in Moscow. Special recruiting agents were employed who were paid a fixed sum for every person whom they persuaded to take up work at a Far Eastern building site or factory. The usual tariff was thirty roubles per person, but occasionally the fee was

* Another special form of Soviet colonization in the Far East was the mobilization of Jews for the settlement of Birobidzhan. The author has described the failure of this experiment in *Russia and her Colonies* (London, George Philip and Son, Ltd., pp. 173–8).

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

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demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[25] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[26] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[27] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

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161 A decree of January 9th, 1950, giving a new list of constituencies for the Supreme Soviet elections established four new constituencies in the
● 167 Far East. The constituency of Khabarovsk was divided into a town and a country constituency, another new constituency was formed around the Okhotsk Sea and two more constituencies were created on Sakhalin. The total population of the Soviet Far East would accordingly have been, in 1950, in the neighbourhood of 4,200,000. It is, however, unlikely that this figure was really reached. The population of each of the three Sakhalin constituencies, in particular, may be considerably below the 300,000 mark.

III. THE SOVIET FAR EASTERN MYSTIQUE

186 The Soviet régime worked for the strengthening of the Russian Far
208 East not only by mobilizing manpower for its colonization, but also by building up a Far Eastern 'mystique', a nationalistic ideology which flattered national pride to the utmost degree. After the end of the Second World War the Soviet Government, with the help of a large army of historians, writers and poets, promoted a cult of Russian heroes of the Pacific. The object of the new propaganda campaign was to show that Russians had played an outstanding part in the discovery of the Pacific and that, by their past records, they were entitled to much more influence in decisions concerning Pacific affairs than the 'imperialist powers' were ready to grant them. The campaign was also intended to prove that Czarist Russia had failed to grasp the opportunities offered to her in the North-West Pacific and that the Soviet Union defended energetically those national Russian interests in the Far East which the old régime had neglected.

RUSSIAN COLUMBUSES

186 To proceed in a strict chronological order the first 'Russian hero of the
208 Pacific' to be mentioned is Semen Dezhnev. Soviet propaganda
159 popularized him particularly in connection with the tercentenary in 1948 of the discovery of the Behring Strait, which separates Asia from America. The Danish explorer, Vitus Behring, after whom the strait is called, may only have rediscovered it one hundred years after Dezhnev had sailed around the 'nose of Asia', the north-eastern tip of Siberia. As late as the nineteenth century, some outstanding Russian scholars still doubted whether Dezhnev could really be credited with this daring feat. Soviet writers, however, are quite positive about Dezhnev's pioneer role. In 1945 the Chief Administration of the Northern Sea Route issued a popular book on Dezhnev, which waived aside all doubts as to Dezhnev's voyage, and described Dezhnev himself as 'a glorious representative of the all-enduring Russian people'.[38]

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647 665 there as a punishment. People who were an embarrassment to the authorities, for one reason or another, were frequently sent to the Arctic regions as administrators and Party secretaries. Most cases of abuse of which such ill-suited administrators had been guilty in distant territories were hushed up, but occasionally they became public, as in the case of the Soviet Commander of the Wrangel Island,* which is part of the Chukcha National Area, and situated off its Arctic coast.

The commander, whose name was Semenchuk, had committed the most outrageous arbitrary acts against both Chukchi and Eskimos, the native population of the island. He and his assistant, Startsev, had caused the death of a number of natives, but the Wrangel Island scandal would probably not have come to light had they not also assassinated the local Russian doctor. The two Soviet administrators were brought to Moscow as defendants in a big trial in which Vyshinsky himself acted as prosecutor. A sixty-five page Vyshinsky speech contains an exhaustive description of the Semenchuk régime on Wrangel Island. Semenchuk's authoritarian idea of the role of a Soviet administrator in the land of the Chukchi and Eskimos was summarised in the following pronouncement which he had made. 'I am the GPU here; I am the court, I am the Public Prosecutor. I have the power of life and death.'

Semenchuk and Startsev were sentenced to death and executed in 1936, but it is still a mystery how the Soviet Government could entrust the strategically important Wrangel Island to an outright criminal. Semenchuk had been in prison for the theft of silver cutlery from the Soviet Embassy in Teheran shortly before being dispatched to the Far North.[3]

The case of Semenchuk and Startsev is obviously an extreme one. There is no reason to doubt that some of the administrators are ardent idealists, determined to improve living conditions and promote education among the local peoples. If we can believe the Secretary of the Department of Cadres of the Khabarovsk Territorial Committee of the Communist Party, there has been a better selection of administrators for the distant areas of the Far East since 1939. The secretary in question had promised in that year that Party posts in these territories would be given in future only to particularly trustworthy persons. He had said,

648 167 * Russian sovereignty over Wrangel Island was established only with some difficulty Both Canada and the United States had striven to attach the island which has an area of 2,700 square miles to their respective territories. The Canadians established their claim by wintering on the island from 1921. They reasserted it by hoisting the flag there in 1921, and in 1922 the Canadian Prime Minister solemnly proclaimed the annexation of the island in a statement before the Ottawa Parliament. The Soviet régime can rightly claim to have rescued Wrangel Island for Russia. In 1924 the crew of the Soviet gunboat 'Red October' took it over and expelled the only Canadian who lived there, together with a group of 'anti-Soviet' Eskimos, who, they asserted, were engaged in illegal hunting of fur animals. The Soviet authorities then brought their own colonists from the mainland, mostly Chukchi and Eskimos, with a few Russians.

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connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

buckwheat, millet, peas, and hemp were cultivated. Likewise animal breeding was known to them, they kept horses, pigs, cattle, and chicken. In the woods he found wild walnut trees. All these tribes paid tribute to the emperor of China, who was called Bogdo-Khan. The natives reported that his warriors fought with fire and bows and arrows. 175 484

Three years after the return of Poyarkov, Khabarov set out again from Yakutsk with 70 men on a new exploratory trip toward Amur. He selected a route running farther to the west than Poyarkov had, and he followed the Olekma and the Tungir in order to reach the Amur via the Urka. There he found a large, hostile population ahead of him and, since he felt himself to be too /24/ weak, he turned back to Yakutsk in 1650. However, the next year he set out again with stronger forces, and by the same route reached the Amur on which he founded the city Albasin /today: Khabarovsk?/ at the mouth of a small river. Agriculture was started, and the place itself was provided with buildings for defense. Numerous Russian peasants followed and settled here. However, the still unknown distances and the waiting booty enticed the restless Cossacks. In a constant fight with the Tungus tribe, the Daur, whose cities he pillaged and destroyed, Khabarov undertook numerous trips on the Amur and also followed the Sungari and the Ussuri. He had to spend the winter of 1651-52 at the mouth of Ussuri on the Amur and there he had to defend himself from vigorous attacks by the Manchu and other peoples. The city of Khabarovsk, later founded at the same spot, bears his name.

The first Russians who advanced into the country were free, very bellicose Cossacks; but with them came Russian settlers and traders at the same time. At favorable trade points they established settlements and, in addition to hunting, agriculture, and fishing, they pursued an active, highly profitable fur trade. Over and above this they demanded the usual "yassak" from the natives. These tributes were collected ruthlessly. Robbing and plundering of the sedentary native population were part of the daily agenda, and accordingly many natives, particularly those pursuing agriculture, left the insecure land and resettled on the right side, the Manchurian side of the Amur. 175 167

By the middle of the seventeenth century there were already a whole series of Russian settlements along the Amur; the capital of these was the above-mentioned Albasin /today: Khabarovsk?/.

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167 All these bases were officially under the Moscow government. Khabarov, who was called to Moscow to give a report, received the title of Boyar. His successor, Stepanov, continued systematically the exploration and taking possession of the land so that by 1681 Russia, for all practical purposes, ruled not only the Amur but also the area around the lower course of the Sungari and Ussuri. The first voivode in Albasin /today: Khabarovsk?/ was Tolbusin. But the behavior of the Russians toward the natives was anything but wooing. Violence and extortions practiced on the natives aroused animosity and led to uprisings, and in the end to battles with the Chinese. As a consequence in the eighties of the seventeenth century all settlements in the entire region were destroyed and most of the Russians were killed. Even Albasin /today: Khabarovsk?/, which had developed into the center of Russian power in the Amur area by continually drawing people in, was captured and destroyed by Manchurian troops in 1684. However, after their withdrawal the Cossacks rebuilt the city and began anew to till their fields. The rapacious border warfare recommenced. Thereupon /25/ a Chinese army with 8,000 men and 40 guns appeared before Albasin /today: Khabarovsk?/ in 1687, while there were only 736 Russians within the city. The Russians, however, succeeded in withstanding all attacks even though at the end only 66 men remained. The others had been killed or had fallen victim to scurvy.

[64R] In order to bring an end to these bloody and inexorable border fights, which had taken on the character of a mutual war of extermination, Russia and China resolved on a treaty which was laid down in Nerchinsk on September 7, 1689. The area west of the Argun was promised to Russia, and Russia pledged to withdraw all Russian settlers from the eastern side of the Argun to the western side. The river area of the real Amur was to remain in China's hands. A left Amur tributary, the Gorbitsa, was laid down as the western border, while the watershed between the Lena and the Amur was determined as the northern border: this watershed in the main runs along the ridge of Stanovoy. All Russian settlers in the Amur country had to leave; Albasin was razed and given up.

After the Nerchinsk Treaty the colonization of Transbaykal began. For the protection of the border the Transbaykal Cossack army was drawn up and settled in numerous stations on the Argun, where the Cossacks led an unconstrained border life--half peasant, half soldier. They soon got along well with the Buryat, who had set up

their defenses at the time of the first invasion of the Russians. Many Buryat were even taken into the Cossack organization as equals. The Amur country, which remained in China's hands, was not, however, forgotten. With its wealth of furs it soon again enticed many Russians, who advanced along the Amur anew, set up settlements, and with their own hands began to establish themselves economically in the foreign land. The very audacious even ventured as far as the Ussuri country.

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Although the northern border of the Amur country, almost unknown to the Russians and the Chinese equally, had not been laid down exactly and had no border markings, it remained thus for over 160 years. In this period, especially after 1800, numerous Russian scientific expeditions traversed the land. In addition to many well known Russian researchers, such as Maksimovich, Veniukov, Nevelskii, Usoltsev, there also appear many German names of Baltic origin, such as Middendorff, Schrenck, Radde, Schmidt, and Glehn. Outstanding descriptions of the land come especially from Middendorff. At the same time the sea-faring powers began to concern themselves with exploring the northeast coast of Asia. In 1778 Cook traveled the Bering Sea, in 1787 La Pérouse explored the Japanese islands and Sakhalin, and in 1795-98 Broughton worked in the same area. It is interesting that /26/ the poet Adalbert von Chamisso (1815-18) participated in the exploration of Kamchatka and the Aleutian Islands.

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In the geographic research in the Amur country, the question of the mouth of the Amur was of predominant interest, for in this Russia hoped to find access to the Pacific and a favorable harbor. Already in 1777 the far-seeing Czarina Catherine II had, on the basis of the report of the unsuitability of the Sea of Okhotsk, given an order that the Amur mouth be explored. La Pérouse, Broughton, and Krusenstern (1803-1806) had reported that the Amur ended in an estuary, which only in the north had a link with the sea, and this was shallow and not navigable for ocean-going vessels; to the south Sakhalin was connected with the land, i.e., it was a peninsula. In 1846 Gavrilov, who had been commissioned to do exploratory work in this sea area, still confirmed these claims. Nevelskii, a Russian naval officer, turned against this conclusion after practical reflection. He could and would not believe that the powerful masses of water from the immense river, the Amur, should run into an estuary which was almost closed off. It was a dramatic battle which he had to

The Russians

563 167 361 The original Cossack settlements formed the basis of the Russian colonization. According to the treaties of Aigun and Peking, the Amur and Ussuri Cossack formations were put next to the Transbaykal Cossack army assigned to the Argun. In the period from 1858 to 1862, 23 such Cossack settlements with 5,000 people came into being on the Ussuri and 75 on the Amur. These Cossack outposts consisted of loosely laid-out villages and also of individual settlements, which were organized in a military fashion for the protection of the border, but which in addition had to maintain themselves economically. For this there was distributed to them large landed property which extended along the Argun, the Amur, the Ussuri and the Suifun along the Chinese border. Successive settlers attached themselves to these strips of settlements, made them more densely populated or extended them. Thus there came into existence, on the one hand, the remarkably long strips of settlements along the border rivers, settlements which extended into the hinterland only where favorable conditions allowed new land to be developed without much work; and, on the other hand, there came into existence among the settlers themselves a certain organization which can be observed in typical characteristics even in recent times. Near the borders on the better land near the rivers sit the old settlers with large pieces of property; mostly these old settlers are descendants of the Cossacks who, after years of fighting, deprivations, and also successes, became enterprising culture pioneers who did not shy from risks, and who represent a powerful, hard, self-conscious race of people. On the other hand, to the side in the interior, mostly on land of slight value, live the the new settlers who came later; they have preserved all the typical characteristics of the East European Russian with his strengths and weaknesses.

563 167 162 Despite various laws favoring emigration of Russian citizens--the first law in this connection was enacted in 1861--/113/ and despite many facilities and much fostering, colonization proceeded only very slowly in the first decades. All recruiting measures had only slight success. The difficult, long land route through Siberia and also the long sea trip frightened many off. Only with the building of the Transsiberian Railway did a stronger stream of immigration begin, and the population east of Lake Baykal was already 1,622,000 by 1911; of these 1,225,000 were Russians and around 20,000 were other Europeans. Of the remaining population of 379,000, the greater part were Buryat, who numbered 205,000, and the remainder was divided between

563 Chinese, Koreans, and numerous small indigenous peoples. The dis-
•167 orders of the revolution after World War I brought many Russians to
162 the Far East. Planned measures for colonization instituted by the Soviet government contributed to this, and by 1926 the population east of Lake Baykal reached around 2.3 million and had risen to 4,040,000 persons by the time of the last census on January 17, 1939. The increase consisted principally of Russians. By 1939 in the Buryat Mongolian ASSR the Russians had an absolute majority with 52.7 percent (in 1941, 57.2 percent) of the entire population of 542,000. In the Chita region, with a total population of 1,159,500, the number of Buryat and other natives can be estimated at most at 50,000, and in the Khabarovsk and coastal region, with a total of 2,338,100 inhabitants, the percentage of indigenous peoples is only 3 percent.

The main part of the Russians are occupied with agriculture and cattle breeding. In addition, fishing and hunting serve as an additional occupation. The professional Russian hunter, the "Promyshlennik," a real runner type, still hasn't died out. The number working in industry has increased sharply in recent years.

563 Even here the Russian peasant continues the life he used to
361 lead at home, and he troubles himself here no less than he did there. Ac-
342 cordingly one can often recognize in the type of settlement where the settler came from, even if it was decades and more ago. The Great Russians, especially those from the northern regions, prefer residences on rivers and in wooded areas. Their houses are built in the same block house style of the "izba" they used to live in. Hunting and fishing are very popular with them. The White Russians also prefer wooded areas. The Ukrainians, on the other hand, are mostly better farmers; they are to be encountered in especially large numbers in the Khanka Lake area, which is relatively free of woods, and around Bochkarevo /now: Kuybyshevka/, and they are descended in large measure from Cossacks who had been sent from the Don area. Their houses show the same whitewashed mud walls and are covered with straw like their "khata" in the Ukraine, although there is really no shortage of wood. Although there are often rivers flowing nearby, they dig a well near the house as a rule because well water, as they say, is cooler and more tasty. Woods in /114/ the vicinity of Ukrainian settlements soon are destroyed; the Ukrainian uses not only the axe but also fire against the woods. The Ukrainians are especially successful with cattle raising.

The cities, too, show the usual Russian face. In the center of the larger cities there are, in addition to narrow tenement houses, some

161 The data of the censuses from 1926 to 1939 are available for
167 observing the general development of the population. According to these the number of inhabitants in the area east of Lake Baykal has increased from 2.3 million to 4,039,800 inhabitants, i.e. 75 percent. By comparing this with the average increase in population in the Soviet Union, which amounted to 15.9 percent during this period and which can be considered equivalent to the natural increase in the population, it can be deduced that in the eastern region the growth through immigration reached the considerable height of 59.1 percent. The individual areas, however, participate very differently in this increase. The increase in the Buryat Mongolian ASSR reached only 39 percent, but that in the Chita area was 73 percent, and in the Khabarovsk area it was even 136 percent. Since resettlement in the Soviet Union is directed by the state, a tendency is shown here to give preferred treatment to the area farthest from European Russia. The coastal district, however, appears to be an exception, for its population increased only 42 percent during this period.

Development of the Population

	1926	1939	Increase in percent	Increase through immigration in percent
Buryat Mongol ASSR	390,000	542,200	39	23.1
Chita Region	670,000	1,159,500	73	57.1
Khabarovsk Region	606,000	1,430,900	136	120.1
Coastal District	638,000	907,200	42	26.1
Total	2,304,000	4,039,800	57.5	59.1

162 /119/ During the same period between 1926 and 1939 a basic change in the structure of the population took place because of the extraordinary increase in the urban part. While the urban part of the population in the Far Eastern region amounted to only 24 percent in 1926, by 1939 it had increased almost to 50 percent. Since Soviet statistics make the concept of urban population equivalent to that of non-agrarian population, a general division by vocation can be deduced from these figures. The Buryat Mongol ASSR has remained predominantly agrarian. The urban share is only 30 percent and even lies below the average for the Soviet Union, which is 32.8 percent. In the three other areas this mean is exceeded and amounts to 44 percent in the Chita region, 45 percent in the Khabarovsk region and even

The Development of the Population 1939-1950

161 The development of the population after 1939 cannot be followed exactly, since no census has been taken since then and also no other official data have been published on this subject. Incidental data on individual places or regions allow a general tendency to be noted, but they are not sufficient to give a clear picture in terms of figures. The best opportunity for this is provided by the election statistics for 1950. Critical evaluation of these statistics enables us to note the total figures for the population, although to be sure the figures calculated are only approximations and contain concealed sources of error which cannot be avoided. Nevertheless the election statistics must be drawn upon, because, with the lack of other information, they offer the sole opportunity to acquire at least a survey of the development of the population.

The total population of the Soviet Far East amounted to 4,039,800 in 1939, according to the census of that year, and to around 6.3 million (including southern Sakhalin and the Kurils) in 1950. The total population, then, had increased by around 2.3 million persons in this time. While the population increased by 75 percent in the 13 years from 1926 to 1939, the increase in the 11 years from 1939 to 1950 was only 35.6 percent. If the mean natural increase in population in the Soviet Union during the period 1926-1939 (15.9 percent for 13 years, 1.22 percent for one year, 13.42 percent for 11 years) is applied to the Far Eastern region without consideration of the effects of the last world war, the resulting figures show that the 35.6 percent general increase in the population consisted of 13,42 percent from natural growth and 22.18 percent from immigration. Under these conditions the general picture of the population development in the Soviet Far East can be concluded to be as follows:

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1939 population	4,039,800
Natural increase 1939-1950	538,140
Increase through immigration	1,722,060
1950 Total	6,300,000

/121/ Even if immigration from 1939 to 1950 did not attain the measure of that of 1926 to 1939, it is nevertheless significant with its general yearly average of 156,500. Since during the six years of the war (1940-1945) all immigration was probably stopped, most of the settlers must have been brought into the Far Eastern region in the remaining five years and especially after the war; this would make the annual average almost 350,000.

The development of the population in the individual regions can also be given only in general figures. Here the difficulty is encountered that the administrative borders were changed in the years after World War II, and accordingly the data can no longer be compared in all cases. Only the Buryat Mongol ASSR and the Coastal District have remained unchanged administratively, while other regions can only be treated together. 161

Population Development According to Regions

	1939	1950	absolute increase	increase in percentage
Buryat Mongol ASSR	542,200	600,000	57,800	10.7 %
Chita Region Khabarovsk District	2,590,400	4,500,000	1,909,600	73.3 %
Coastal District	907,200	1,200,000	292,800	32.3 %
Total	4,039,800	6,300,000	2,260,200	35.6 %

The above chart shows that the main increase in population occurred in the Chita Region and the Khabarovsk District, while the percentage of increase in the other two regions is lower than the general percentage of increase.

There must even have been some emigration from the Buryat Mongol ASSR. If we apply here the above mentioned percentage of natural increase in population (13.42 percent), then this alone should have resulted in an increase of 72,863. This means that around 15,000 persons must have emigrated from the Buryat Mongolian ASSR in the period from 1939 to 1950. The predominantly agrarian character of this republic--in 1939 the rural population amounted to 70 percent of the total--makes it appear completely possible that this occurred because of the progressive mechanization and technicalization of agriculture. [167].

The absolute increase in the population of the Coastal District from 1939 to 1959 was 292,800, of which 121,750 came from natural increase and 171,050 from immigration. From individual reports on significant increases in industrial production and also from the growth of individual cities (Vladivostok increased by around 100,000, Voroshilov by around 70,000, and Artem has passed the 50,000 mark), it can be assumed with certainty that not only the greater part of the immigration but also /122/ the greatest part of the natural population growth has generally been fed to the industrial sector of the economy.

without any additional reasons. It must also be assumed as obvious that Buryat-Mongol relationships in the Soviet Union served as a model in the formation of the Mongolian People's Republic and its organization into a state, and also that thereby the influence of the Soviet Union has grown far beyond its political borders.

Land Transportation

Transportation acquires a striking importance with the size of the area. The development has shown that the transportation installations were not created because there was a necessity based on the economy of the region itself, but rather that the transportation-political standpoint of the entire state was decisive for the various transportation installations. The Amur railroad and also the Ussuri railroad were for their part built through regions which were often completely uninhabited or settled only extremely slightly. Only with the construction and after the completion of these railroad lines did people stream in in larger numbers, and accordingly the railroads became pacemakers for the colonization and development of the economy. Even today it is still so. Connection with the transportation system is the necessary condition for winning new settlement areas and for exploiting the rich natural resources of this vast land.

With the slight density of population, transportation installations, such as for example the railroads, which required a great expenditure of capital and labor, often /183/ prove themselves to be unsupportable economically, unless these installations correspond to another, higher point of view, or are built for the future in a far-sighted fashion. In both cases it is up to the power and the enterprising spirit of a great state organism to carry out mighty tasks of this type. That was the case with the old Russia and it is also the case with the Soviet Union. At any rate the slightness of the railroad network goes back to these reasons. In contrast to these, however, the transportation installations, whose introduction required only slight outlays of money, are much better developed. To this category belongs water transportation, whose present state, according to the judgment of Soviet specialists, exceeds even that of the European part of the USSR. Also in this category is air transportation.

The railroads are the main bearers of the traffic. The eastern part of the Trans-Siberian Railroad constitutes the main vein. It runs from Lake Baykal via Ulan-Ude and Chita across Transbaykal, and then,

in the construction, attained brilliant results not only because many millions of rubles remained in the country but also primarily because it fostered colonization. Many thousands of workers, who were recruited from Russia, learned to know the Amur country and settled in the land after the completion of the construction.

/186/ The Trans-Siberian Railroad leads through the most important localities in the Far Eastern region. The distances between the most important localities are as follows in railroad kilometers: Irkutsk--Ulan-Ude, 490 kilometers; Ulan-Ude--Chita, 554 kilometers; Chita--Khabarovsk, 1,428 kilometers; Khabarovsk--Vladivostok, 768 kilometers; Karymskoye--Otpor (border station), 366 kilometers; Karymskoye--Harbin--Vladivostok, 1,981 kilometers.

A number of branch railways lead from the main line to localities which are important economically or in terms of transportation. On the Transbaykal Railroad and the Amur Railroad the following, from west to east, are to be cited.

Ulan-Ude	--Naushki (Mongolian border)	225 kilometers
Petrovsk	--Balyaginsk (iron ore)	19 kilometers
Tolbaga	--Khalyarta (coal)	8 kilometers
Ingoda	--Ildigun (wood, agriculture)	52 kilometers
Priiskovyy	--Nerchinsk (city connection)	10 kilometers
Kuenga	--Sretensk (Shilka harbor)	55 kilometers
Pashennaya	--Bukachacha (coal)	73 kilometers
Skovorodino	--Dzhalinda (Amur harbor)	60 kilometers
Ushumun	--Chernyaye (Amur harbor)	38 kilometers
Kuybyshevka	--Blagoveshchensk (Amur harbor)	109 kilometers
Bureya	--Raychikhinsk (coal)	43 kilometers
Arkhara	--Innokent'yeva (Amur harbor)	35 kilometers
Izvestkovyy	--Ust'-Tyrma (coal)	190 kilometers

Of these lines the railroad from Ulan-Ude to Naushki is of the greatest significance. It was completed in 1939 and leads to the Mongolian border. Since then it has been lengthened to reach Ulan Bator (Urga), the capital of the Mongolian People's Republic. Then, in addition, various side lines have been created in the last few years. Thus a railroad line leads from Skovorodino over 150 kilometers to Tyndynskiy in the area around the upper course of the Gilyuy, and there is supposed to be a connection to the new Baykal-Amur Railroad (BAM). Also the Izvestkovyy--Ust'-Tyrma line named last in the above list

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

•167 into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier [241] had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, 231 the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities en- 241 gaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding 654 their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

228 Of greatest importance for the economy of Kamchatka is fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at [251] the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking [255] of the fish and salting of the fish in vats and above all to processing in canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

136 great schools of salmon, which come up the river to spawn. Most numerous are two types of salmon--the Keta salmon (Oncorhunchus Keta Walb.) and the humpback salmon called the gorbusha by the Russians. The Sea of Okhotsk has in addition herring, cod, tuna fish, and mackerel. The coastal area of Kamchatka have the riches supply of crabs in the world. On the eastern side of the peninsula it is principally Pacific types of salmon that are caught: the red salmon (Oncorhunchus nerka Walb.), the silver salmon (Oncorhunchus Kisutch Walb.), and the king salmon (Oncorhunchus tschawytscha Walb.). Originally the Bering Sea was extraordinarily rich in sea animals, expecially whales and seals, but these have been heavily decimated by man.

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181. A. Schultz, Das Ussuri-Land /The Ussuri Region/ (Königsberg, Prussia, 1932).

175 We derive our first historical information on these same regions from the old Chinese history books, which go back to 2500 B.C. According to these sources, in the land of the Amur and Ussuri there lived the Sushe in the east, the Huei (also called Hueimai) in the middle of Manchuria, and the Tonghu /Dunghu/ in the west. All three peoples, who were subdivided into numerous smaller tribes, are mentioned in the same areas even as late as the second century B.C. According to present-day research, the Sushe and the Huei are to be interpreted as Tungus, while the Tonghu /Dunghu/ are regarded as pre-Mongols. Discoveries of Stone Age culture of the latter people extend over all of eastern Mongolia. The Sushe and Huei lived predominantly in forested areas, while the Tonghu preferred the open plains. Thus, even

Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their [262] chest but with their neck. The main food of the Gilyak is fish dried in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [441] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role; this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

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material life of the Maritime Chukchee, who number approximately 3,000, is completely the same as that of the Eskimo. They use the same leather boat, the kayak, and the metal harpoon with a float made of an inflated sealskin, and many other things. On the other hand the Reindeer Chuckchee are completely nomadic and have shown themselves to be extraordinarily good reindeer breeders. They number only about 9,000, but they have around half a million reindeer. But still reindeer breeding does not appear to have been their original sphere, for many idioms as well as marks of their dwelling indicate that they also once lived on the banks of the sea; reindeer breeding was perhaps taken over later from the neighboring Tungus. Thus, /109/ as Bogoras (37) reports, the interior of the sleeping section of

[501] [174]

37. V. Bogoras. The Chukchee (New York, 1904/1908).

the tent is designated as the "skin of the white bear" by the Reindeer Chukchee, even though at present not bear skin but rather only reindeer skin serves as walls and bed covering both for the Reindeer and the Maritime Chukchee. Peculiar is the belief of the Chukchee that a life after death is attained only by a person who has had a violent death, and it was not long ago that, out of a kind of sympathy, they killed their own people who were weakened by age or unfit for life; this custom is also reported among the North American Eskimo. The Chukchee, Koryak, and Kamchadal generally show many traits related to those of the Indians of northwest America, and it is for this reason that Bogoras classifies as "Americanoid" the entire group of Paleo-asiatics, including the Gilyak mentioned earlier.[1] Myths and sagas coincide both in content and in form, often down to details, with those of the northwest American Indians. Accordingly the assumption should not be dismissed that the Chukchee, Koryak, and Kamchadal once were immediate neighbors of the Indians, and that only at a later time did the Eskimo shove in between them.

[761] [171]

The Koryak, now also designated as Nymylan, occupy the northern half of Kamchatka and the adjacent continent. Their number is estimated at around 10,000. Like the Chukchee they are divided in half into the Maritime Koryak and the Reindeer Koryak. The former are sedentary and above all fishermen, and their life approaches in significant measure that of the Eskimo. They also hunt sea animals such as the walrus, the seal, and occasionally also the whale. They are already extensively absorbed into the Russian culture and live

1 [Cf. cat. 116, pp. 118-119 -- Analyst]

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-1-4
116, 114, 171, 197, 756

"The Hungarian scholar J. Németh (1) has attacked the problem in the right spirit,

1. "Über den Ursprung des Wortes Šaman und einige Bemerkungen zur türkischmongolischen Lautgeschichte," Keleti Szemle, vol. XIV, 1913-14, pp. 240-249.

and ably solved it by means of a sane philological method. A schooled phonetician, he has successfully worked for several years on the phonetic history of the Turkish and Mongol languages and established very interesting correspondences of phonetic phenomena in these two linguistic families. In the study cited he advances the law that primeval Turkish initial k' (palatalized k) has developed into Tartar k, Čuva j, Yakut x (spirant surd as in German ach), Mongol ts, č, and Manchu-Tungusian s, ś, or š. He gives seven examples to this effect, the first of which is:

Turkish (Uigur and in the dialects of southern Siberia) kam or anciently qam (shaman), in some dialects kŭär, dum (with such derivations as kamdi, to prophesy; kamla, to heal; kamna, to shamanize; etc.). Čuvaš jum, jumeš (shaman); im-jum (durative charms). Manchu saman, Golde sama, š'ama, Olča šam, Oročon sama, Tungus on the middle Amur saman, Tungus of Udsk saman and šaman, Kondogir and Wilui Tungus xaman.

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-2
116, 114, 171, 197, 756

Németh concludes that the origin of the much disputed word 'shaman' is thus definitely solved, and that it is an ancient property of the Turkish-Mongol languages. The phonetic alternation determined by him is perfectly correct and Manchu-Tungusian sam, s'am, or šam (2) is indeed the exact phonetic equivalent of Turkish kam. (3) Apart

2. This in fact is the stem of the word, not as formerly believed by some scholars, sa-, which was explained from Manchu sa- (to know). Németh justly rejects this derivation. By the way, Schott, the father of this etymology, disavowed it himself in his second treatise on the word shaman, quoted above. D. Banzarov (l.c., p. 35) justly recognized sam as the stem.

3. It was hitherto believed that the word for shaman was different in all languages of Siberia, while there is a fairly uniform designation for the female shaman (udagān, utygan, ubakxan, etc.). Hence V. F. Troščanski (Evolutsiya černoi v'ary [šamanstva] u Yakutov- 'Evolution of the Black Faith among the Yakut, Kazan, 1902, p. 118) was prompted to the theory that the Siberian tribes originally had only female shamans, and after the time of their separation instituted also male shamans. This reconstruction is contestable on many grounds; for instance, we have male and

> female shamans . [368] co-existent in the most ancient days of China. The supposition on which the conclusion is based is now no longer valid: the word for the male shaman is in fact identical throughout from the Turkish to the Tungusian and Gilyak tribes.

from the Tungusian series noted by Németh [368] after Grube's Goldisches Wörterverziechnis, several other forms of the word have become known. De la Brunière (1)

> 1. In H. E. M. James, The Long White Mountain or a Journey in Manchuria (London, 1888), pp. 433, 434

recorded it in 1846 among the Golde as tsama or tsamo. I heard only s'ama from the Golde, in the same manner as Shimkevič, (2) but in view of the existence of several

> 2. Materialy dl'a izučeniya šamanstva u Goldov. p. 8.

Golde dialects such a form many be regarded as possible. A Rudnev (3) noted from a

> 3. Novyia dannyia po živoi mandžurskoi r'äči i šamanstru (New Data

on the Live Manchu Speech and Shamanism), p. 9.

Manchu, who was still conversant with his mother tongue, the following: sáma, sáman, sáma (nasalized a), and sāmǎn.

The Gilyak style the shaman čam (tsǎm). This certainly is a loan-word received from Tungusian, (4) but it is not necessary to assume that the change of the initial š

> 4. There is no doubt that the shamanism of the Gilyak is derived from and a weak echo of that of the neighboring Amur tribes. There are but a few shamans among the Gilyak, and shamanizing is rarely practised by them (see for the present L. von Schrenck, Reisen und Forschungen im Amur-Lande, vol. III, p. 752).

or s into the palatal explosive surd is due to the Gilyak; for this alternation is common within Tungusian, so that a Tungusian čam borrowed by the Gilyak may be presupposed for some Tungusian dialect spoken in the neighborhood of the Gilyak. Compare the following examples: Manchu nesuken and nečin (equal)--Jučen nušin; Manchu ničuxe (pearl)--Old Jučen inšuko or inšuxa, modern Jučen ninčuxe; or vice versâ, Jučen ančun (gold)--Manchu aisin."

10: Laufer--368-370 E-3 (no date) 1917 Northeast Asia-1-5
116, 114, 177, 197, 756

"It has been said that the word šaman is found only in the eastern part of Siberia and in Manchuria. There is, however, one well-authenticated instance on record to the effect that it was known also in northwestern Siberia. In the earliest account that we have of the Irtysh-Ostyak, written in 1715 by G. Novitski, their priests were styled šamančik.(5)

5. B. Munkácsi, Keleti Szemle, vol. IV, 1903, p. 88.

In view of the early date of this record we cannot well assume that this is a loan-word recieved through intercourse with the Russians. Whether the term still exists I [369] am unable to say from the sources at my disposal. S. Patkanow (1) gives for the

1. Die Irtysch-Ostjaken, pt. I, p. 120.

shamans of the Ostyak only the name tonx-ort. (2)

2. Consulting Castrén's vocabulary in his Versuch einer ostjakischen Sprachlehre I find that tonx means idol, and ort, workman, slave. If accordingly tonx-ort should mean servant of the idols, the term might hardly be claimed as a primeval designation of the shaman.

136 great schools of salmon, which come up the river to spawn. Most numerous are two types of salmon--the Keta salmon (Oncorhunchus Keta Walb.) and the humpback salmon called the gorbusha by the Russians. The Sea of Okhotsk has in addition herring, cod, tuna fish, and mackerel. The coastal area of Kamchatka have the riches supply of crabs in the world. On the eastern side of the peninsula it is principally Pacific types of salmon that are caught: the red salmon (Oncorhunchus nerka Walb.), the silver salmon (Oncorhunchus Kisutch Walb.), and the king salmon (Oncorhunchus tschawytscha Walb.). Originally the Bering Sea was extraordinarily rich in sea animals, expecially whales and seals, but these have been heavily decimated by man.

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175 divides the Russians on the left side of the river from the Tungus and the Chinese on the other side. The Chinese had immigrated there later in large numbers.

172 In Transbaykal traces have been found which prove that man already occupied this country in the Paleolithic Age. Nevertheless these traces are very obscure and are still not interpreted. Much clearer information is given by the Neolithic findings of the life and economy of man there. At that time the land was occupied by sedentary fishermen and hunters, who in the south also did a slight amount of cattle raising. Their settlements lay primarily on rivers and lakes. For food they also collected edible plants, roots, mushrooms, berries, and "cedar nuts" (fruit of the Siberian stone pine). They already knew how to make clothes from hemp nettle fabrics.

175 The first historical information, according to Chinese sources, attests that in the third and second centuries B.C. this land was occupied by the Huns, who are described as semi-nomadic, and who pursued hunting and agriculture in addition to cattle raising. They were known through the trade which they conducted with the Chinese. Around 100 B.C. the land came under Chinese rule, though the borders are still very unclear. Other foreign rulers from the south replaced the Chinese, and so the land remained until about 900 A.D. with /103/ various peoples coming and going. Among these the Uigur are mentioned in particular. In the epoch of Chinggis /Genghis/ Khan, in the twelfth and thirteenth centuries, there lived here the Merkit, the Kereit, and Oirat, /Oirot/, among others, who are designated collectively as "forest peoples." They became involved in battles with the peoples of Chinggis /Genghis/ Khan, were defeated, and had to submit to his rule; this, however, was scarcely noticeable, since no consideration was given these rough wooded areas lying on the edge of this immense empire. At this time the Buryat tribes were formed from the various peoples, part of whom were seeking protection, and from the indigenous population Giving way to the pressure from the southern steppes, a part of these Buryat tribes withdrew to the western side of Lake Baykal. In so doing they pressed the Turkish Yakut and the Tungus peoples to the north. The Yakut withdrew to the region of the middle and lower Lena, a region composed in part of steppes, and pushed their residence up to as far as the Paleoasiatics residing in the north. Thus the Yakut pushed forward a broad wedge into the Tungus area of expansion.

In the fourteenth century the residence of the Buryat extended

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1/ [Cf. cat. 116, pp. 118-119 -- Analyst]

Kamchadal, Eskimo 101 563

when the salmon run begins, festivals of joy and work begin for young and old. As a rule the fish are caught in fixed traps, which are drawn across the river so that the way is barred for the fish as they go upstream. The fish press together in great masses in front of this weir and are caught with simple scoop nets. The common drying place is never empty, for it is important to preserve as many fish as possible for the entire year by drying them. In addition, an older method is still used occasionally: the fish are buried in the earth and there becomes sour; hence there is a kind of fish silo from which fish can be fetched during the winter as needed. A penetrating fish smell fills the entire settlement, and there is no end to eating during the catching season. It is not too much to say that the Kamchadal live on fish and tea. The dog, the most important domestic animal and beast of burden for all sedentary native northeast Siberians, is also fed on fish. The number of dogs is considered as the mark of wealth. There are families which have 200 to 300 dogs, which are housed in a pen near the house and fill the entire region with their hoarse barking. It is inadvisable for strangers to go near these half-wild animals. At present the horse is spreading more and more and is beginning to displace the dog as the beast of burden. Through the state organization of fishing and the introduction of modern methods, large sections of the Koryak have also been incorporated and placed in a new order. Many have also turned to agriculture and cattle-breeding. [226] [251] [231]

/111/ The Asiatic Eskimo live on the banks of Bering Strait and occupy 17 villages with approximately 1,600 people. They extended much further formerly; and it is for this reason that there are Eskimo names for places now occupied by Maritime Chukchee. The displacement of the Eskimo must have been done simply by force, for the sagas of the Chukchee are filled with reports of hard battles with the Eskimo, battles which, however, ended long before the entrance of the Russians. Today the two peoples live harmoniously beside one another in separate villages. The Asiatic Eskimo differ from their relatives in Alaska in their speech but culturally they form a unit with them. With their life completely directed toward the sea, they seldom go into the interior of the land; for such occasions they use dog sleds. On the Commander Islands live approximately 500 Aleut, who, according to their language, are related to the Eskimo. They, too, live completely from catching sea animals, since the islands offer them only birds. [174]

As has already been said, the Buryat Mongols have a cultural

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

186 159 208 victions. Not only was the colonization of Alaska itself 'progressive' and 'democratic', the management of the Russian-American Company also was. One of its chief executives, K. F. Ryleev, was executed for his part in the December rising of 1825, and there were other prominent 'Decembrists' among the officials of the Company.[33]

208 563 Soviet propaganda has tried to show that Baranov and Kuskov conducted a progressive policy towards the natives of North America, totally different from the Anglo-Saxon or Spanish policy towards Red Indians. This is untrue and has been contradicted by Russian sources themselves. A Russian naval officer, who visited Alaska at the time of Russian occupation, has given the following eloquent description of Baranov's policy towards Eskimos and Aleuts: 'Woe to those who resisted him. He destroyed them mercilessly, deported them to uninhabited islands, deprived them of all means of contact with each other, and mixed people of various tribes so that there could be no malicious conspiracy against the Russians. He was feared by the savages, they considered him as the scourge of heaven. Since they had no chance to revolt they were forced to become his slaves and to forget all about their previous freedom'.[34] As a matter of fact, the Aleuts revolted against Russian rule, as the Russian historian, Shashkov, pointed out in his book on the Russian-American Company, and these revolts led to the extermination of a large part of 'this restless people'. How many Aleuts have perished altogether in the years of Russian rule it is impossible to say. According to the official data of the Russian-American Company there were 8,405 Aleuts in Alaska in 1824, but only 4,363 were recorded in 1859. It would be true to say, therefore, that Russian colonization of Alaska was, from the humanitarian point of view, by no means better than, say, British colonization of Australia in its initial stage.

797 Nevertheless, Russian policy towards the native peoples of Russian America did have its brighter aspects. Those responsible for it, however, were not Shelikhov, Baranov and the other newly discovered national heroes of Soviet Russia, but people whom the Soviet régime is not very keen on publicizing, the Christian missionaries. It was they who founded the first schools in Alaska, educated a fair number of natives, and even translated religious books into the Aleut language. The most important Russian churchman working in Alaska was Ivan Veniaminov (1797–1879). He was the author of a grammar of the Aleutian language which was published in St. Petersburg in 1846. The 'apostle of Alaska', as the Russian historian, Zernov, calls him, became later, under the name of Innokentii, Metropolitan of Moscow.[35]

175 The scope of these Russian church activities was, however, very small and one cannot say that the end of Russian rule in Alaska, in 1867, meant in any way a major loss to the native peoples; but of course it was, historically speaking, a great loss for the Russian State. Soviet Russia was

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

more conscious of this loss than Czarist Russia had ever been. In Soviet political literature published after the Second World War the abandonment of the Russian outposts in California in the 'forties' and the sale of Alaska to the United States appear not only as regrettable blunders, but almost as acts of treason on the parts of the Czarist Government. 175

THE RUSSIAN PACIFIC

Russian traditions in the Pacific, as presented by Soviet propaganda, are by no means confined to Russian rule over Alaska and 'Fort Ross'. Quite a number of Russian naval expeditions took place throughout the nineteenth century in various parts of the Pacific Ocean. The public, and particularly Soviet youth, has been acquainted with them since 1945 in various ways. Stories about these expeditions have been written anew, in the form of historical novels or of straightforward descriptions, with the obvious object of stimulating national pride. 186 208

From this patriotic Soviet Russian literature centring on the Pacific one can learn a great deal – for instance, that the Russians discovered as many as 400 small Pacific islands, more particularly those belonging to the Paumotu Archipelago in the South-East Pacific, and some of the Marshall Islands. All these islands had been named after Russian generals in the war against Napoleon, and other famous Russian historical figures. Some of the Russian names still persist. Thus the, Lisiansky Island, a possession of the U.S.A., east of Midway Island, bears the name of a well-known Russian seafarer, and east of Samoa there still exists a Suvorov Island belonging to Britain. Also, the big island of New Guinea has important Russian associations. Russians are not credited with its discovery, it is true, but it was a Russian scholar to whom was due the first detailed description of the Papuan people. The Russian explorer, Miklukho-Maklay (1846–88), spent some time with the Papuans. The result of his observations was included in his diaries, which were not published until the Soviet régime came to power. As the Russian geographer, L. S. Berg, puts it, Miklukho-Maklay died before he succeeded in writing his fundamental scholarly works, but, even so, he is highly honoured in the Soviet Union. After all, he was the first Russian to demand that Russia should have a colony in the Pacific.[36] The Institute of Ethnography of the Academy of Sciences has been called after him and a play 'White Friend' has been produced in which he is the central figure. He appears there as the 'champion of black and coloured peoples enslaved by the colonizers of the West'.[37] 186 208 103

'NEVELSKOY'S IMMORTAL FEAT'

For Soviet patriotic ideology one historic personality is more important 186 208 159

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3. Khabarovsk Krai
5. Maritime Krai
6. Sakhalin Oblast

The two sketch maps inserted in the book show the old and the new administrative division. In the following presentation the old administrative units must be used as a rule in statistical information.

The new division of the administrative regions which has been made often during the period of Soviet rule, shows that the Soviet Far East is still not in its final from, neither as to population nor as to the development of its economy nor yet as to its administrative order; everything is in vital flux, everything is coming into being and becoming.

Unveiling and Occupation

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The conquest of Siberia, begun in 1581 by Yermak and his Cossacks, moved forward to the east very quickly, unhampered by the sparse population. It followed the great rivers, whose watery courses served the Cossacks both as a route and as a sign-post into the vast areas never before tresspassed upon by a European. River area after river area was thus transversed by them and secured by bases remaining there. Already by 1632 the city of Yakutsk was founded in the land of the Yakut on the middle Lena, and from then on this city served as a starting point for further pressure forward. In 1638 a Cossack division of Ataman Koplov proceeded along the Aldan and its tributary the Maya. They wanted to go to the "Great Sea," which the Tungus reported to them and which the Tungus called the "lamu," the "sea." However, they went only around 100 kilometers along the Maya and then had to stop for the winter. A smaller group under the leadership of the Cossack Moskvitin advanced farther along the way. They carried their boats from the upper Maya over the watershed of the Dzhugdzhur and reached the Ul'ya, which carried them on. In 1649 these Cossacks reached the coast of the Sea of Okhotsk, being the first Europeans to do so. At the mouth of the Ul'ya, somewhat south of present day Okhotsk, Mosvitin established a base and explored the coast to the north and south and /19/ /Map of the Soviet Far East as of 1953:/ /20/ went as far as the mouth of the Uda. However, he did not find the Shantar Islands. They were discovered only in 1710. Another Cossack by the name of Shelkovnikov founded

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the sea base Okhotsk at the mouth of the small river Okhota still in the same year of 1649; Okhotsk has for a long time served as the Russians' main harbor.

From Yakutsk northeastern Siberia was also opened up. In 1633 Rebrov and Perfiliev went down the Lena into the unknown distance and reached the Artic Ocean, which they followed along the coast to the east and discovered the mouth of the Yana. Ivan Yerastov, proceeding from the Yana, reached the Indigirka and the Alazeya in 1641. In the same year Stadukhin went farther to the east and came to the Kolyma, where he founded the base Nizhne-Kolymsk in 1644. He didn't go farther east, since ice blocked his way, so he turned back to Yakutsk in 1645. Stadukhin brought the first reliable reports on the Chukchee. In 1646 Ignatiev reached the Chaun Bay. In Stadukhin's division which pressed forward to the mouth of the Kolyma was Semion Dezhnev, whose name has endured in the history of the discovery of northeastern Siberia. Despite previous failures, this bold Cossack sea traveler again proceeded east from the mouth of the Kolyma with seven small boats. His goal was the mouth of a large river (the Anadyr'), which by hearsay was supposed to empty into the sea further to the east. In 1648 he sailed around the cape named after him and thus determined the northeastern end of the Asiatic continent. Thus Dezhnev was the first European to travel in the Bering Strait. Because of the thick fog he could not see the American coast on the other side of the strait, but he did report on two islands (Diomede Islands). Dezhnev must have gone very far to the south, for when he was stranded with his boats as a consequence of a storm, he had, according to his own report, to double back to the north, going by foot for ten weeks, in order to reach the mouth of the Anadyr'. The conjecture that Dezhnev eventually reached Kamchatka, cannot be discarded. It can be taken as certain the Popov, one of his companions, traveled around Kamchatka and in Penzhina Bay met other Russian sea travelers coming from Okhotsk. Thus the circle of the Russian opening-up of northeastern Siberia was closed along the coast, where the Dezhnev route and the Moskvitin direction met. Popov later traveled the Tigil' River on Kamchatka, where he died. His fellow travelers were killed in a disagreement with the natives. There are various documents from Dezhnev and his companions, and these documents report not only on the regions discovered but also on the inhabitants, the Chukchee, the Koryak, and the Eskimo.

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In 1647 Stadukin started out from Yakutsk again toward the Kolyma area, where he remained until 1649, and then he took up again /21/ his old plan of finding the Anadyr'. He knew nothing of the success of Dezhnev's trip. Restrained by his first failure in 1643-44, he selected the land route and thus followed the direction which a scarcely known Cossack by the name of Motora had already taken before him. Stadukhin followed the Anyuy, probably the Lesser Anyuy, and with great difficulty crossed the watershed of the present Anadyr' Mountain, and also reached the river of the same name, which he followed to its mouth, where he met Dezhnev. But later he returned to the interior of the Anadyr' region and there founded a base, whose location is unknown. Stadukhin later appeared in Penzhina Bay. It cannot be determined whether he got there by the land or the sea route. His last known deed was the founding of a settlement on Tauyskaya Bay. To Stadukhin we owe the first reports on the interior of northeastern Siberia.

Although Kamchatka had already been touched by various Russians, Cossack leader Atlasov was the first to succeed in taking possession of the peninsula for Russia. In 1697 he was sent out as the commander to the Anadyr', and still in the same year he pressed in to the interior of Kamchatka and established a base in the center of the peninsula on the Kamchatka River. Atlasov was named the first Russian administrator of Kamchatka. Fights with the natives and also with his own Cossacks didn't make his work easy. In 1707 the Cossacks got angry and imprisoned Atlasov, whom they accused of misuse of his office and cruelty. In 1711 he is supposed to have been killed. From 1711 to 1718 there followed the discovery of the Kurils, in which Kosyrevskii in particular performed great service.

It is remarkable that Japan is never mentioned in the reports of the expedition leaders. Atlasov was the first to whom such a report goes back. Once he spoke of a Japanese who was driven onto the land by a shipwreck on the western coast of Kamchatka and who lived with the natives. In 1701 he was brought to Moscow by the Russians, and there he caused great commotion by his tales, and even Peter the Great occupied himself very much with getting a school built for him in which he was to teach Japanese language to a select group of Russian subjects. This school existed until 1739. Its pupils took part in the Bering expedition as interpreters. In another report Atlasov makes a remark that Japanese are supposed to have lived on the southern tip of Kamchatka. For the rest his reports are filled with

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descriptions of the land. Kamchatka's wealth in fish and valuable fur-bearing animals is given especial attention; among the latter the sable and the Kamchatka beaver, as the great sea otter was falsely named, are prominent. For this reason the Russians at that time also called the Bering Sea the Beaver Sea. Kosyrevskii, the /22/ discoverer of the Kurils, later met Japanese several times. His reports on Japan increased Peter the Great's interest in the Far East; he gave the order to conduct further exploratory trips and to secure the unoccupied land for Russia. Already by 1718 all the Kuril Islands were included in maps.

Among Dezhnev's successors the rumor appeared that farther to the east land was supposed to lie on the other side of the ocean. These rumors relied on the reports of the natives of the Chukchi Peninsula, who asserted that in winter that continent, which they designated as the "Great Land," could be reached over the ice. Atlasov called special attention to these reports, and he had the still unknown land drawn on his maps; but it was only Bering and Chirikov who reached Alaska for the first time in 1741 and took possession of it for Russia. A further advance of the Russians followed with the Aleutian Islands and the southern coast of Alaska serving as the guiding lines. In 1812 there were Russian settlers 40 miles outside of San Francisco and a base close to San Francisco. This was the most distant point which the Russians reached in their rapid and dashing settlement of the east. A backward movement followed. In 1867 Alaska, which at that time was considered valueless, was sold to the the United States for 7.2 million dollars, and with this Russia limited herself to the western side of the Pacific.

The movement of the Russians into the still unknown regions of the Far East occurred partly as a result of official orders; in this case the administrative offices in the hinterland carried out the formation and equipping of mostly very small expeditions and also chose the leaders; but in part this movement was the result of private undertakings. The voivode followed then in the tracks of both. The main goal of all expeditions was to take possession of the land through the establishment of bases and to insure the collection of the "yassak," a kind of head tax, which had to be paid by the natives in valuable furs. Also participating in the official expeditions were the private entrepreneurs, the "promyshlenniki," mostly fur traders and hunters, who distinguished themselves in the gouging of the natives no less than the official administrators. Thus it came about that the natives,

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who were shamelessly exploited, often turned against those moving in. Great battles took place with the Chukchee, Koryak, and Kamchadal, and these were decided in the Russians' favor because of their superior weapons. But again and again there were attacks on and murders of collectors of the "yasssk." Only at the end of the eighteenth century did peace and order return to the land.

The occupation of Transbaykal and the Amur region did not keep pace with the advance of the Russians in the north; for in Transbaykal and the Amur region the Russians encountered a population which was by comparison more thickly settled and which already had a state /23/ organization. When the Cossacks in 1648 advanced from Irkutsk into Transbaykal, they were first attacked by the nomadic people, the Buryat, a Mongol tribe. Only step by step did they succeed in advancing to the Argun and getting a foothold there. Reconnaissance into and occupation of the Amur area was done, therefore, from the north, from Yaktusk, since the direct route from Lake Baykal such difficulties were encountered, On the report of Tungus that vast rich lands lay south of the Aldan region, Cossack Poyarkov in 1643 undertook the first expedition there with 132 men. From Yaktusk he proceeded along the Aldan and then followed the Aldan's tributary, the Uchur, and then the Gonarn. But here winter surprised him on the broad watershed of the newly discovered Stanovoy. The lack of game on the uninhabited ridge of the mountain brought the expedition into very great danger. Death from hunger threatened everyone, and they had to eat tree bark and moss in order to preserve their strength.. Despite the great danger Poyarkov succeeded in crossing the watershed on skis, and with the breaking up of the ice he reached the Bryanka, a tributary of the Zeya. Using rafts and boats he himself had made, he went down this river to the Amur, at whose mouth he spent the winter with the primitive fishing people, the Gilyak. In the summer of 1645, using small boats without keels, he proceeded from here along the coast to the north. After a three-month trip with unbelievable deprivations, he landed at the mouth of the Ul'ya, where he encountered Russian settlers and thus was saved. From here he followed the Maya to the Aldan and returned to Yakutsk in 1646. On this hard three-year trip he lost 80 men through illness, enervation, and conflicts with natives. In his description of the Amur country Poyarkov reported on the peoples settled here and mentioned among others the Daur and Gilyak. Of the latter he said that they ate only fish. The Daur, on the other hand, pursued agriculture; barley,

buckwheat, millet, peas, and hemp were cultivated. Likewise animal breeding was known to them, they kept horses, pigs, cattle, and chicken. In the woods he found wild walnut trees. All these tribes paid tribute to the emperor of China, who was called Bogdo-Khan. The natives reported that his warriors fought with fire and bows and arrows. 175 484

Three years after the return of Poyarkov, Khabarov set out again from Yakutsk with 70 men on a new exploratory trip toward Amur. He selected a route running farther to the west than Poyarkov had, and he followed the Olekma and the Tungir in order to reach the Amur via the Urka. There he found a large, hostile population ahead of him and, since he felt himself to be too /24/ weak, he turned back to Yakutsk in 1650. However, the next year he set out again with stronger forces, and by the same route reached the Amur on which he founded the city Albasin /today: Khabarovsk?/ at the mouth of a small river. Agriculture was started, and the place itself was provided with buildings for defense. Numerous Russian peasants followed and settled here. However, the still unknown distances and the waiting booty enticed the restless Cossacks. In a constant fight with the Tungus tribe, the Daur, whose cities he pillaged and destroyed, Khabarov undertook numerous trips on the Amur and also followed the Sungari and the Ussuri. He had to spend the winter of 1651-52 at the mouth of Ussuri on the Amur and there he had to defend himself from vigorous attacks by the Manchu and other peoples. The city of Khabarovsk, later founded at the same spot, bears his name.

The first Russians who advanced into the country were free, very bellicose Cossacks; but with them came Russian settlers and traders at the same time. At favorable trade points they established settlements and, in addition to hunting, agriculture, and fishing, they pursued an active, highly profitable fur trade. Over and above this they demanded the usual "yassak" from the natives. These tributes were collected ruthlessly. Robbing and plundering of the sedentary native population were part of the daily agenda, and accordingly many natives, particularly those pursuing agriculture, left the insecure land and resettled on the right side, the Manchurian side of the Amur. 175 167

By the middle of the seventeenth century there were already a whole series of Russian settlements along the Amur; the capital of these was the above-mentioned Albasin /today: Khabarovsk?/.

•175 All these bases were officially under the Moscow government.
167 Khabarov, who was called to Moscow to give a report, received the title of Boyar. His successor, Stepanov, continued systematically the exploration and taking possession of the land so that by 1681 Russia, for all practical purposes, ruled not only the Amur but also the area around the lower course of the Sungari and Ussuri. The first voivode in Albasin /today: Khabarovsk?/ was Tolbusin. But the behavior of the Russians toward the natives was anything but wooing. Violence and extortions practiced on the natives aroused animosity and led to uprisings, and in the end to battles with the Chinese. As a consequence in the eighties of the seventeenth century all settlements in the entire region were destroyed and most of the Russians were killed. Even Albasin /today: Khabarovsk?/, which had developed into the center of Russian power in the Amur area by continually drawing people in, was captured and destroyed by Manchurian troops in 1684. However, after their withdrawal the Cossacks rebuilt the city and began anew to till their fields. The rapacious border warfare recommenced. Thereupon /25/ a Chinese army with 8,000 men and 40 guns appeared before Albasin /today: Khabarovsk?/ in 1687, while there were only 736 Russians within the city. The Russians, however, succeeded in withstanding all attacks even though at the end only 66 men remained. The others had been killed or had fallen victim to scurvy.

[LHR] In order to bring an end to these bloody and inexorable border fights, which had taken on the character of a mutual war of extermination, Russia and China resolved on a treaty which was laid down in Nerchinsk on September 7, 1689. The area west of the Argun was promised to Russia, and Russia pledged to withdraw all Russian settlers from the eastern side of the Argun to the western side. The river area of the real Amur was to remain in China's hands. A left Amur tributary, the Gorbitsa, was laid down as the western border, while the watershed between the Lena and the Amur was determined as the northern border: this watershed in the main runs along the ridge of Stanovoy. All Russian settlers in the Amur country had to leave; Albasin was razed and given up.

After the Nerchinsk Treaty the colonization of Transbaykal began. For the protection of the border the Transbaykal Cossack army was drawn up and settled in numerous stations on the Argun, where the Cossacks led an unconstrained border life--half peasant, half soldier. They soon got along well with the Buryat, who had set up

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their defenses at the time of the first invasion of the Russians. Many Buryat were even taken into the Cossack organization as equals. The Amur country, which remained in China's hands, was not, however, forgotten. With its wealth of furs it soon again enticed many Russians, who advanced along the Amur anew, set up settlements, and with their own hands began to establish themselves economically in the foreign land. The very audacious even ventured as far as the Ussuri country.

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Although the northern border of the Amur country, almost unknown to the Russians and the Chinese equally, had not been laid down exactly and had no border markings, it remained thus for over 160 years. In this period, especially after 1800, numerous Russian scientific expeditions traversed the land. In addition to many well known Russian researchers, such as Maksimovich, Veniukov, Nevelskii, Usoltsev, there also appear many German names of Baltic origin, such as Middendorff, Schrenck, Radde, Schmidt, and Glehn. Outstanding descriptions of the land come especially from Middendorff. At the same time the sea-faring powers began to concern themselves with exploring the northeast coast of Asia. In 1778 Cook traveled the Bering Sea, in 1787 La Pérouse explored the Japanese islands and Sakhalin, and in 1795-98 Broughton worked in the same area. It is interesting that /26/ the poet Adalbert von Chamisso (1815-18) participated in the exploration of Kamchatka and the Aleutian Islands.

In the geographic research in the Amur country, the question of the mouth of the Amur was of predominant interest, for in this Russia hoped to find access to the Pacific and a favorable harbor. Already in 1777 the far-seeing Czarina Catherine II had, on the basis of the report of the unsuitability of the Sea of Okhotsk, given an order that the Amur mouth be explored. La Pérouse, Broughton, and Krusenstern (1803-1806) had reported that the Amur ended in an estuary, which only in the north had a link with the sea, and this was shallow and not navigable for ocean-going vessels; to the south Sakhalin was connected with the land, i.e., it was a peninsula. In 1846 Gavrilov, who had been commissioned to do exploratory work in this sea area, still confirmed these claims. Nevelskii, a Russian naval officer, turned against this conclusion after practical reflection. He could and would not believe that the powerful masses of water from the immense river, the Amur, should run into an estuary which was almost closed off. It was a dramatic battle which he had to

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484 conduct against the explorers recognized by the authorities, and he found support from the new Russian governor for East Siberia, Muraviev, who later was made a count and received the honorary name of Amurskii. Muraviev got him command of a small ship, with which Nevelskii headed for the Far East from Kronstadt and in 1849 began his explorations, even before he had received permission to do so. He determined that the connection to the north between the sea and the Amur Gulf could be traversed at all times by ocean-going vessels with a depth of up to 4 meters, and that Sakhalin was an island, and that accordingly during the warm seasons ocean-going vessels with a depth of up to 5.50 meters could get unhampered to the mouth of the Amur from the Sea of Japan through Tatarskiy Proliv /sound/. This news caused a sensation in Petersburg and awakened anew the greatest interest in the Far East both among the state leaders and among the public. In the meantime explorers such as Middendorff, among others, and later also Nevelskii himself reported that the area east of the Lesser Khingan and of the Ussuri had, for all practical purposes, never been brought under Chinese administration and that it was, therefore, in fact free. Thereupon Muraviev took possession of this area and also the Amur country. All of these events are reported in detail, but from the Chinese point of view, by Aitchen K. Wu in his work appearing in 1950, "China and the Soviet Union" (231).

231. Aitchen, K. Wu. China and the Soviet Union (London, 1950).

[148] In 1858 Russia and China signed the Treaty of Aigun, in which the Amur country was declared to be a Russian possession, while the Ussuri country was to be administered jointly by the two countries. But in 1860 in a treaty with Peking Russia also received the Ussuri country and was promised the Island of Sakhalin. With this, all regions which today belong to /27/ the Soviet Union came under Russian administration. In 1860 Vladivostok was founded, in whose name the imperative of Russia's Far Eastern policy was expressed: "Rule the East!"

General Survey

133 Transbaykal, like the other border areas in the Far East, belongs to the east Siberian mountain country. In contrast to the other

136 great schools of salmon, which come up the river to spawn. Most numerous are two types of salmon--the Keta salmon (Oncorhunchus Keta Walb.) and the humpback salmon called the gorbusha by the Russians. The Sea of Okhotsk has in addition herring, cod, tuna fish, and mackerel. The coastal area of Kamchatka have the riches supply of crabs in the world. On the eastern side of the peninsula it is principally Pacific types of salmon that are caught: the red salmon (Oncorhunchus nerka Walb.), the silver salmon (Oncorhunchus Kisutch Walb.), and the king salmon (Oncorhunchus tschawytscha Walb.). Originally the Bering Sea was extraordinarily rich in sea animals, expecially whales and seals, but these have been heavily decimated by man.

/101/ THE POPULATION

Prehistory and Colonization

171 Various discoveries of New Stone Age implements prove that
172 the Amur and Ussuri regions were already occupied by man at the turning point between Diluvium and Alluvium /the Diluvial and Alluvial Ages?/. Among the tools found are simple hatchets, chisels, spearheads, scrapers, and knives, hammered out of stone; but also known are polished tools such as those of the Neolithic Age in north Germany. Additional findings of an advanced, more recent Stone Age show string and ribbon pottery, similar to that of Europe's culture at the same time. (181)

181. A. Schultz, Das Ussuri-Land /The Ussuri Region/ (Königsberg, Prussia, 1932).

175 We derive our first historical information on these same regions from the old Chinese history books, which go back to 2500 B.C. According to these sources, in the land of the Amur and Ussuri there lived the Sushe in the east, the Huei (also called Hueimai) in the middle of Manchuria, and the Tonghu /Dunghu/ in the west. All three peoples, who were subdivided into numerous smaller tribes, are mentioned in the same areas even as late as the second century B.C. According to present-day research, the Sushe and the Huei are to be interpreted as Tungus, while the Tonghu /Dunghu/ are regarded as pre-Mongols. Discoveries of Stone Age culture of the latter people extend over all of eastern Mongolia. The Sushe and Huei lived predominantly in forested areas, while the Tonghu preferred the open plains. Thus, even

in the oldest periods the division into the forest peoples of the Tungus and the steppe people of the Mongols was apparent. /175

From their original home, which we must regard as northern Manchuria and the Ussuri region, the Tungus then spread over the larger part of eastern and central Siberia, and in the process they partly intermixed with the Paleoasiatic peoples living north of them and partly pushed these peoples farther and farther to the north and northeast. In this the Tungus tribes were able to adjust themselves with extraordinary adroitness to greatly varying types of terrain and to very different living conditions, and thus to extract from nature the best possible for their own culture. In the course of this development they divided into various branches so that today the Horse, Reindeer, and Dog Tungus can be differentiated according to culture. The largest part of the Tungus live today in the region of two eastern tributaries of the Yenisey, the Upper and the Lower Tunguska, which got their names from the Tungus; and live scattered widely /102/ over the entire far eastern region, with the exception of the extreme northeast, which remains preserved as the retreat area of the Paleoasiatics. The pressure of the Tungus to the north was also of use to the retreating peoples, for these peoples took over many cultural attainments from the Tungus. It can even be assumed that various Paleoasiatic peoples learned reindeer culture first from the Tungus.

Of the Paleoasiatic peoples only the Gilyak have retained their old habitat on the lower Amur and in the region of the Ude because of the protection of the swamps, just as the Ainu have remained on Sakhalin. The main section of the Paleoasiatics found refuge in the extreme northeast.

In the expansion of the Tungus over all of eastern Siberia many tribes dissolved into smaller tribes and groups. There was, of course, room enough for that. In their own homeland, however, cohesion was better preserved. In this region they had settled in large measure in the area left of the Amur; this applies especially to the Daur. Here, on the plains of the Zeya and Bureya, the Russians, as their first reports indicate, found a rather thickly-settled area occupied by a population which pursued agriculture and cattle raising. The Tungus peoples who were settled here left this land in the period after the rapacious intrusion of the Russians and withdrew to the quieter, right side of the Amur, or were later forcibly pushed there by the Russians, so that at present there are no Tungus settlers at all to be found in the real Amur country. The Amur as far as Khabarovsk

175 divides the Russians on the left side of the river from the Tungus and the Chinese on the other side. The Chinese had immigrated there later in large numbers.

172 In Transbaykal traces have been found which prove that man already occupied this country in the Paleolithic Age. Nevertheless these traces are very obscure and are still not interpreted. Much clearer information is given by the Neolithic findings of the life and economy of man there. At that time the land was occupied by sedentary fishermen and hunters, who in the south also did a slight amount of cattle raising. Their settlements lay primarily on rivers and lakes. For food they also collected edible plants, roots, mushrooms, berries, and "cedar nuts" (fruit of the Siberian stone pine). They already knew how to make clothes from hemp nettle fabrics.

175 The first historical information, according to Chinese sources, attests that in the third and second centuries B.C. this land was occupied by the Huns, who are described as semi-nomadic, and who pursued hunting and agriculture in addition to cattle raising. They were known through the trade which they conducted with the Chinese. Around 100 B.C. the land came under Chinese rule, though the borders are still very unclear. Other foreign rulers from the south replaced the Chinese, and so the land remained until about 900 A.D. with /103/ various peoples coming and going. Among these the Uigur are mentioned in particular. In the epoch of Chinggis /Genghis/ Khan, in the twelfth and thirteenth centuries, there lived here the Merkit, the Kereit, and Oirat, /Oirot/, among others, who are designated collectively as "forest peoples." They became involved in battles with the peoples of Chinggis /Genghis/ Khan, were defeated, and had to submit to his rule; this, however, was scarcely noticeable, since no consideration was given these rough wooded areas lying on the edge of this immense empire. At this time the Buryat tribes were formed from the various peoples, part of whom were seeking protection, and from the indigenous population. Giving way to the pressure from the southern steppes, a part of these Buryat tribes withdrew to the western side of Lake Baykal. In so doing they pressed the Turkish Yakut and the Tungus peoples to the north. The Yakut withdrew to the region of the middle and lower Lena, a region composed in part of steppes, and pushed their residence up to as far as the Paleoasiatics residing in the north. Thus the Yakut pushed forward a broad wedge into the Tungus area of expansion.

In the fourteenth century the residence of the Buryat extended

from the Oka, a left tributary of the Angara, to the Onon and Argun steppes in the east. At that time they already knew how to extract salt and to process iron. They were known as the trade middlemen between the Tungus hunting peoples and the Chinese. From the Tungus they acquired valuable furs (sable) by barter in exchange for food, especially millet, and these furs they exchanged with Chinese traders for silver and goods from China. In this period, under the leadership of the "Noyone," the tribal divisions had been transformed into fixed, almost state-like organizations, which were in a position to give successful resistance to the Cossacks pressing in in the seventeenth century. The first information which the Cossacks received of Transbaykal described the land as having a wealth of valuable furs and silver. 175

Even the Irkutsk Buryat accomplished vigorous resistance, and in many instances smaller Cossack divisions were defeated or annihiliated. In the course of battles lasting years the Cossacks succeeded in getting a foothold in Transbaykal in individual bases, which were built up into small fortresses. In 1646 Verkhne Angarsk was founded at the mouth of the Upper Angara on Lake Baykal, in 1648 Barguzin was founded, Nerchinsk in 1654, Selenginsk /now: Novo-Seleginsk/ in 1665, Verkhne Udinsk (Ulan-Ude) in 1666. Nevertheless the Buryat did not submit so easily to the will of the Cossacks, whose power did not extend far beyond the bases. Twice great uprisings broke out, and for months the bases were cut off from all contact and exposed to a severe siege. Smaller posts were pillaged, the personnel slaughtered, and the buildings destroyed. However, in the long run the Buryat could not hold out against the firearms and the better organization of the Russians. Many retreated into Mongolia, but from there they again and again /104/ made attacks. Only after the Treaty of Nerchinsk in 1639 did peace return to the land. With that colonization by the Russians began.

The Old Peoples

Three groups can be distinguished among the old peoples presently occupying Transbaykal and the far eastern region: the Mongols, the Tungus, and the Paleoasiatics. The Buryat are the sole representative of the Mongols in Baykal, while the Tungus and Paleoasiatic peoples are distributed over the entire far eastern region. 101 144

The Buryat occupy the region west and east of Lake Baykal.

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even where the N.K.V.D.-M.V.D. has no direct economic power it is the decisive political force, above all, in border areas like the Maritime Territory of the Soviet Far East.

There are indications, however, that the police ministry has encountered certain difficulties among the Far Eastern Russians during the war and post-war period. Conditions were certainly favourable to a re-emergence of that Far Eastern regionalism which Soviet power has tried so hard to eliminate. The people of Vladivostok, in particular, must have felt once more that the natural destiny of their city was that of a window into the world. They saw the many American lend-lease shipments arriving in their harbour and were bound to draw certain conclusions about the desirability of international trade and Soviet-American co-operation. More than people in other parts of the Soviet Union must the Russian inhabitants of the Pacific coastal areas have resented the policy of rigid isolationism which the Soviet Government has pursued particularly since 1947.

This frame of mind of the 'Far Easterners' makes it understandable that the very existence of an American consulate in Vladivostok was a matter of concern to the Soviet Government. The building of the consulate was put under constant supervision and for long periods it was floodlit at night. In 1948, the Soviet Government used a flimsy pretext to demand from the United States that they should withdraw their consular personnel from the Pacific port. The measure had little importance for the Americans as the activities of the four American consular officials were extremely limited, but it had a certain symbolic significance. The closing down of the consulate was a way of telling the people of Vladivostok that their hopes of their city becoming a link between Russia and the West were once more doomed. Some years later the charge was made that the consulate had been the centre of a spy-ring. This accusation was first put forward in the short story *In a Seaside Town* ('V Primorskom Gorode') which the popular Soviet illustrated *Ogonyok* published in 1950. In the daily press the 'plot' was mentioned for the first time on February 8th, 1953, when *Izvestiya* wrote : 'In 1947, the organs of the state security service liquidated a spy-nest organized by the assistant naval attaché at the American consulate general of Vladivostok, Richard'. *Izvestiya* produced no further details nor any evidence to support its disclosure which it simply quoted from a book *The Secret Weapon of the Doomed*. This latter work had come out under the auspices of the Komsomol organization. The absurdity of the Vladivostok spy story does not preclude the possibility that many Russian Far Easterners in the late 'forties' and early 'fifties' were persecuted for pro-Western sentiments just as others had been victimized for alleged pro-Japanese leanings in the late 'thirties.'

The particular sensitiveness which the Soviet authorities have shown

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III

THE ABORIGINES OF THE SOVIET FAR EAST

101 There are about 60,000 aborigines in the Soviet Far East (excluding Yakutia and Buryat-Mongolia) belonging to over a dozen different nationalities. The ethnographers divide them into two main groups. The first group, the Paleoasiats, includes the Chukchi, the Koryaks, the Asiatic Eskimos, the Aleuts, Ainu, Nivkhi and Kamchadals. Of the second, the Manchu-Tunguz peoples, the most important are the Tunguz proper, or Evenki, the coastal Tunguz, or Eveni, the Nanai and the Udege. Politically and sociologically all these nationalities
563 must be considered as one single entity. The Soviet régime has treated them quite differently from the Korean, Chinese and Japanese minorities. As the small groups of aborigines are unable to handicap Russian colonization, the Communist Party has patronised them, and Soviet propaganda has always devoted a great deal of publicity to them, even at a time when there was complete silence about the Koreans and Chinese of the Soviet Far East. This does not necessarily mean that Soviet Russia has handled the problems of the Far Eastern aborigines successfully.

TWO VIEWS ON NATIVE POLICY

563 In the first years following the October Revolution the most authoritative
● 177 Russian anthropologists felt that the time had come to take special
656 measures to protect the Far Eastern and Far Northern natives from the pernicious influences of European civilization. Demands to that effect were voiced, in the winter of 1921–22, in the organ of the People's Commissariat for Nationalities, *Zhizn Natsionalnostei*. The most remarkable contribution to the problem of the small nationalities came from Professor Vladimir Germanovich Bogoraz-Tan (1865–1936), who had a profound knowledge of the problems of the tribes of North-Eastern Siberia, particularly of the Chukchi. Professor Bogoraz suggested that the Soviet Government should draw the lessons from certain experiments carried out in the native territories of Canada, the United States, Brazil and Argentina. It seemed vital to him that the mode of

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563 life and the living conditions of the primitive tribes should be protected
●177 against every influence on the part of their more civilized Russian neigh-
656 bours, or even of other stronger non-Russian peoples. Russians, Bogoraz said, should not be allowed to make any use whatever of the territories inhabited by the 'primitive tribes'. They should not even be permitted to enter them. Exceptions were to be made only for three categories of people, first anthropologists and linguists, secondly certain persons who would render practical services to the territories, such as doctors and technicians, and thirdly the ideologists of the new régime. Professor Bogoraz warned against making any economic experiments with the natives. He said that such experiments would not enhance the welfare of the Far Northern and Far Eastern tribes, but would, in fact, undermine their existence.[1]

To carry out a systematic policy of protection of the natives Professor Bogoraz demanded the foundation of a special committee to be attached to the People's Commissariat of Nationalities. Such a committee was in fact founded with the prominent participation of Professor Bogoraz himself. It was the 'Committee of the North'. It had a huge bureaucratic apparatus consisting of five departments. The first dealt with administrative and legal matters, the second with economic and financial affairs, the third was concerned with scientific research, the fourth with health and the fifth with education. The Committee of the North had a Far Eastern Bureau in Khabarovsk which dealt with the small Far Eastern nationalities.

From the very beginning two tendencies made themselves felt within the Committee. People like Bogoraz-Tan viewed its work primarily from a philanthropic point of view. They thought that the Committee was nothing more than an organization to assist the Far Northern and Far Eastern peoples to recover from the blows which contact with European civilization had inflicted on them. Die-hard Bolsheviks, on the other hand, had a different approach. They considered the Committee to be an instrument of economic exploitation of the Far Northern territories, and for fostering class struggle among the tribes.

563 Their view did not prevail at once. In the first five years of its existence,
635 between 1924 and 1929, the Committee did not interfere much with the tribal system of the Far North and Far East. The administrative pattern enforced in other parts of the Soviet Union was not extended to the small native peoples. Those living in the Far East were given such forms of local administration as were acceptable and comprehensible to them. Each tribe had a Tribal General Assembly ('Obshchee Rodovoe Sobranie') which elected a Tribal Executive Committee ('Rodovoy Ispolnitelny Komitet'). Several related tribes sent delegates to a Tribal District Congress ('Rayonny Rodovoy Sezd') which elected a Tribal District Executive Committee ('Rayonny Rodovoy Ispolnitelny

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Komitet'). The Tribal Committees of the lower order were later described as 'Native Soviets' ('Tuzsovety') of which there were 400 all over the Far East and Far North. The most remarkable fact about this tribal administration was that participation in tribal and native Soviets was not limited by class criteria.

This idyllic state of affairs could not last long. From one plenary meeting of the Committee of the North to the next the intransigence of its more radically minded members increased. In 1929 the Committee firmly decided to apply the principles of class struggle to the Far North, and from 1930 onwards, the tribal administration was abandoned. Regular organs of local government ranging from village Soviets to 'National Areas' ('Okrugs') were created instead. This meant in fact the end of the 'native reserves' which the Russian anthropologists had advocated in the early years of the Soviet régime. Under the new set-up Russian and other European Party and State officials were able to increase their influence in the running of native affairs. The natives were linked politically and administratively as closely as possible with the metropolitan territories of the U.S.S.R. In 1935, the Committee of the North itself was disbanded.

By the time of its abolition the Committee had lost a great deal of its previous importance. Many of its original duties had been taken over either by the Chief Administration of the Northern Sea Route, 'Glavsevmorput', or by local government organs. The Chief Administration of the Northern Sea Route, which had at its disposal a large staff of experts on nationalities problems, was originally launched as a body with extremely wide powers. Among other things, it was supposed to look after the well-being of the Far Northern tribes, direct cultural work among them, organize health services and help to promote their 'sovietization'. In the autumn of 1938 the Soviet Government decided that 'Glavsevmorput' could not carry out these tasks properly. A decree of the Council of People's Commissars stipulated that it was to hand over to the territorial administrations all enterprises and institutions which were not directly connected with the development of the Northern Sea Route.[2]

COMMUNIST ADMINISTRATORS

The abolition of the Committee of the North in 1935, and the curtailing of the powers of the 'Glavsevmorput' in 1938, increased the responsibilities of the administrative authorities and party organizations of Khabarovsk. It cannot be said that the latter have shown great enthusiasm for work in the National Areas and National Districts of the small nationalities. In fact, up to 1939 most of the officials posted to distant parts of the Far Eastern (later Khabarovsk) Territory went

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indeed, 'The further away we send a man, the more we must be able to trust him'.[4] It can be taken for granted that a man whom the Communist Party considers particularly trustworthy will be a hard-working official, and that he will not commit any crimes such as those of which Semenchuk and Startsev had been convicted. But a trustworthy communist is not necessarily a man who understands the mentality of the Far Eastern aborigines, and who deals with their problems in the best way.

NATIVES, STATE TRUSTS AND FORCED LABOUR

In addition to the Party and the territorial administration, there is a third influential factor in the Far East which has a great impact on the 'natives', namely the big State capitalist organizations of Kamchatka, Chukotka and the territories around the Okhotsk Sea. Instead of assisting and strengthening native economy the Soviet régime encouraged the growth of State companies such as the 'Kamchatka Limited Company' (later known as 'Glavkamchatrybprom' – Kamchatka Chief Administration for the Fishing Industry), the 'State Reindeer Trust', the 'Dalrybtrest' (Far Eastern Fishing Trust) and 'Soyuzpushnina', the State organization for fur trading. Soviet experts on the Far East themselves have admitted that these enterprises employed people who were guided by a 'narrow-minded business attitude' and who discharged their duties in a 'crudely materialistic way'. All they wanted was to fulfil the target figures of the state plan. They were not interested in assisting the natives either by supplying the most essential food commodities or by encouraging cultural work. The enterprises concerned, in particular the Kamchatka Company and the Reindeer Trust, seized land, and hunting and fishing grounds traditionally belonging to the natives. Even land owned by newly established collective farms of reindeer-breeders was arbitrarily confiscated by State trusts.[5]

Another State enterprise, the previously mentioned 'Dalstroy', which operates around the Okhotsk Sea, has also greatly affected the life of the 'natives' who live in its territory. The first director of Dalstroy, E. Berzin, pointed out in 1936 that the trust had opened schools and hospitals in all centres of the native population. The budget of the native communities ('National Districts') had increased almost ten times during five years.[6] What Berzin did not say was that the native schools and hospitals had been built with the profits which Dalstroy had made by exploiting forced labour. As a matter of fact, some of the schools of which Berzin boasted are 'mixed schools', which are attended both by natives and by children of convicts who were born in captivity and taken away from their mothers.[7] In the area controlled by the Dalstroy we thus meet the most sinister aspect of the 'Soviet nationalities policy', namely, its

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connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

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233 474 gives an optimistic picture of the Russian reindeer situation states that a new period of decline set in during the war owing to the increased slaughter for the army and inferior care of the herds resulting from the mobilization of many native herdsmen.[14] After the war the position improved but whether and when the peak figure of 1931 was reached again, is impossible to say. Such increases in the number of reindeer as there were, were brought about, it seems, by a more liberal application of the collective farm statute. Collective farm members were encouraged to own small reindeer herds privately. The maximum size of these privately owned herds is not known but cases have been mentioned of individual collective farmers having as many as 80, 90, 130, and even up to 200 reindeer each.[15]

233 874 The reindeer problem has caused difficulties to Soviet administrators not only in the purely economic sphere but also in the field of education. What is needed in the Far North is a school which would help to raise hunting and reindeer breeding to a higher level. The more enlightened Russian pedagogues are the first to admit that such a school does not exist. One of the school inspectors posted to Northern Siberia quoted, not without a certain measure of approval, a reindeer breeder who refused for a long time to entrust his two sons to a Soviet boarding school. The father in question said that he taught his children to hunt game, to catch the polar fox and to ride reindeer. In school, he added, they would not learn all this, and when they had finished they would have no practical knowledge. An article in the *Teachers' Gazette* stated that there was a 'grain of truth' in the complaint of the old reindeer breeder. 'The school is indeed too much cut off from practice and thus not able to prepare children for the life in the Far North.'[16] A similar problem, it is true, also exists in other countries. Richard Finnie, in his book *Canada moves North*, says that Eskimo children, after spending years in boarding schools, return to their families unfitted for the lives they must lead.[17]

THE CULTURAL REVOLUTION

212 871 ● 171 Whatever the quality of school education in the Russian Far North may be, it is a fact that the Soviet authorities have carried out a big cultural revolution in the native territories. The most important part of it has been the liquidation of illiteracy. Until 1931 the Far Northern and Far Eastern peoples could express themselves in writing only in the form of drawings or through the medium of the Russian language. In May, 1931, they received an alphabet of their own, the 'Unified Northern Alphabet' as it was called. It was officially approved by the Ministry of Education of the R.S.F.S.R. The 'Unified Northern Alphabet' was a Latin alphabet and the decision to adopt it was not taken without a long struggle fought out behind the scenes between the supporters of latiniza-

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the Far Eastern aborigines are sent to the Pedagogical Institute of Khabarovsk, where there is a department for the Far Northern nationalities, and a few are even admitted to the Herzen Pedagogical Institute in Leningrad. Courses at the Far Northern Department of that Institute last three years, and the curriculum includes 'Foundations of Marxism-Leninism; the great works of Stalin on questions of linguistics; the history of Russian pre-revolutionary and Soviet literature; folklore, and many other subjects'.[21] In addition every student has lessons in methods of teaching, in the grammar of his own national language, and in the history and ethnography of the peoples of the North.

Native students are also instilled with a feeling of hatred against the non-communist world. The results of this indoctrination can be gauged from the answers which a Yakut student gave, according to *Pravda*, at his final examinations at the Leningrad Pedagogical Institute. 'The Yakut student, E. Sysosyatin, talked at the examination of the situation of the Eskimos, Aleutians and Red Indians in America. He mentioned many facts which unmasked the American imperialists, and their criminal policy directed towards the total extermination of these peoples. To the horrors of misery, starvation, inhumane privations and persecutions to which these nationalities are subject in America, even greater atrocities have been added during the past few years. As has become known, the American imperialists, preparing bacteriological warfare, tried out the effects of the deadly microbes on the Eskimos. As a result of these cannibalistic experiments many Eskimos in America died of bubonic plague.'[22]

Soviet dictatorship indoctrinates all citizens of the U.S.S.R., whether Russians or Uzbeks, Ukrainians or Georgians, Latvians or Chukchi. It gives to all of them a completely distorted picture of the nations outside the communist sphere. This campaign of hatred and distortions, while morally wrong in every single case, is particularly contemptible if directed towards the youth of primitive peoples. By trying to transform young native intellectuals into agitators of the 'cold war', the Soviet régime destroys to a considerable extent the good which it is doing by the spread of culture and knowledge.

COMMUNISTS AND SHAMANS

The young natives trained in Nikolayevsk-on-Amur, Khabarovsk and Leningrad are to help the Russian administrators in the fight against 'local nationalism' in all tribal areas of the Soviet Far East. Naturally, in the territories of the small Far Eastern peoples the Soviet régime does not fight 'local nationalism' in the same way as it does in areas where there are more developed nationalities. There are no parties or political groups which the communists have to suppress; there is no feudal-

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patriarchal literature which has to be banned, and no cultural societies which have to be closed down because of bourgeois romanticism. Even so the small peoples of the Far East adhere, just as other peoples do, to their national traditions which are closely linked with those primitive religious beliefs usually summed up under the collective name of 'Shamanism'.

Shamanism is fundamentally the belief in good and bad spirits. The exact nature of the belief varies from one tribe to the other. The spirits may be deified animals, they may be ancestors, or they may simply be the forces of nature. Shamanism is not based on an elaborate ecclesiastical organization, but there are, nevertheless, mediators between spirits and ordinary human beings. These mediators are called Shamans. They enjoy a great deal of respect and prestige in the tribal society and this alone would have been sufficient reason to make them 'Enemy Number One' of the Soviet régime in all National Districts and National Areas inhabited by the Far Eastern aborigines.

The régime has charged the Shamans with many crimes, in particular with being dishonest and with consciously deceiving the people. This accusation has been contradicted by many Russian and foreign anthropologists who have had first hand experience of the Far Eastern Shamans. They have made the point that most Shamans sincerely believe in their superior power and are firmly convinced of their ability to cure the sick and to talk to spirits or to deceased relatives. It does not seem that Shamans charged more than moderate fees for their services if they demanded payment at all.[23] According to P. E. Petri, Professor of Ethnology at the Irkutsk University, it was completely erroneous to suggest that the majority of the Shamans were charlatans exploiting the credulity of the natives. For the Shaman, Petri wrote as late as 1928, his vocation constituted a heavy obligation which the spirits had imposed on him. The Shaman knew respite neither by day nor by night. He might at any time be called out and had then to travel dozens of miles in any weather. The Shaman was rarely at home and his household was therefore neglected. As a rule the Shamans were poor and only those living together with their brothers were better off.[24]

According to official Soviet evidence the Shamans engaged in 'mad resistance' to the extension of Soviet power to the north. They disseminated 'provocative rumours' aimed at inciting the tribesmen against the Russians. These charges against the Shamans are reflected in a number of novels which Soviet writers have written on life in the Far East. For example, Syomushkin's novel, *Alitet goes to the Hills*, records the collective resignation of the chairmen of the tribal Soviets in a part of Chukotka, as the result of the evil influences of one important Shaman. These chairmen gathered one day in the tent of the Russian secretary of the Communist Party and surrendered to him their letters of appoint-

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FAR EASTERN ABORIGINES AND SOVIET FOREIGN POLICY

Destiny has placed the Far Eastern natives into politically and strategically important regions, the mouth of the Amur, the Russian islands of the North-west Pacific, and the territory bordering the Behring Strait. Consequently, the nationalities concerned can only too easily be dragged into the struggle of the big powers for the Pacific. In fact, they have already played their modest part in world politics, and may do so in future. The Nanai, Udege and Nivkhi have participated in Russian-Chinese rivalries. The Udege, Nanai and Ainu have stood between the lines in Russian-Japanese conflicts. The Chukchi, Aleuts and Asiatic Eskimos are involved in the American-Russian antagonism.

The Soviet régime has always been aware of the special position of the small Far Eastern nationalities, and has framed its propaganda accordingly. It has presented itself to the peoples concerned as their saviour rescuing them from 'Chinese merchant capitalism' or from 'Japanese militarism' or from 'American robbery'. The aim of Soviet 'native policy' in the Far East is thus to make the local nationalities anti-Chinese, anti-Japanese or anti-American, as the case may be, and to instil in them a feeling of gratitude towards Russia and the Russians.

Not everything which Russian propagandists tell the natives about other nations is necessarily untrue. It is a fact that Chinese merchants were, for a long time, almost sovereign rulers in the interior of the Russian Pacific province, and exerted a tyrannical overlordship over the aborigines. In some cases the aborigines were reduced to outright serfdom. But even Russian sources have had to admit that the Chinese were interested not merely in profits, but also in spreading their culture. In the absence of any major Russian cultural activities the Chinese ran schools for the aborigines. The latter studied Chinese history, and grew familiar with Chinese institutions. Russia and things Russian were either ignored altogether, or represented in a distorted light.[36] Some of the aborigines completely abandoned their mother tongue, and adopted the Chinese language. The Soviet régime brought about a complete change. It ended the economic exploitation of the natives by Chinese merchants and stopped Chinese cultural propaganda. Cultural domination passed into the hands of the Russians. From a Russian nationalist point of view this was undoubtedly a great success, but whether it is preferable for a Far Eastern people to accept Russian or Chinese civilization is a matter of opinion.

THE NANAI

The most important nationality which the Soviet régime has claimed to have rescued from the Chinese are the Nanai. They are the largest single

101 The Buryat occupy the region west and east of Lake Baykal.
563 Their entire number in 1939 was around 280,000. They are divided into the Irkutsk and the Transbaykal Buryat. The former, numbering approximately 100,000, live in the Irkutsk region and enjoy cultural autonomy in the Ust'-Orda Krai. The Transbaykal Buryat are united in the Buryat-Mongol ASSR. Nevertheless, they constitute only 43.8 percent of the population of this ASSR (1941), and the Russians are in the majority. Buryat live in large numbers also in the Chita region, especially in the Aginsk /Aga/ Steppe south of Chita, where they have their own administration in a national district. The Buryat are regarded as a branch of the Mongols and are contrasted with the Khalkha
563 Mongols in Outer Mongolia. As history shows, a part of this people early became sedentary, especially west of Lake Baykal. In the steppes of Transbaykal, however, the major part of the people remained typical Mongolian nomads until the very recent past. Gmelin, who traveled the land in the eighteenth century, reports that numerous Buryat had herds of thousands of sheep and hundreds of reindeer and horses. Georgi, who spent time in Transbaykal in the same century, writes that individual Daur Buryat own up to 1,000 camel, 4,000 horses, 2,000 to 3,000 reindeer, 8,000 sheep, and hundreds of goats. Even if these numbers may be exaggerated, they show nevertheless that animal breeding was the basis of the economic life of the Buryat. After the invasion of the Russians they were able to adjust in advantageous fashion to the changed situation, and a large part of the people went over to agriculture. There remained for them simply no other way, since the Russian settlers took the best pasture lands from them and transformed them into tilled land. Pressed into unfavorable areas, they proceeded with remarkable energy and without European guidance to create their own tilled land through artificial irrigation, especially in the river region of the Selenga and in the Barguzin Valley. However, in the southern steppes of Transbaykal they have /105/ retained their original occupation, cattle raising, in which they have made extraordinary accomplishments. The Buryat Republic belongs today
563 to the most important cattle surplus areas in the Soviet Union. Many
177 interesting features of their own folk life have been lost through the introduction of kolkhoz economy and modern cattle-raising methods. Thus the felt yurts occupied of old have simply disappeared and have been replaced by small, practical wooden houses. However, there are still regions in Transbaykal where the Buryat continue their nomadic life unhindered, even though everywhere the influence of Russiandom grows stronger and stronger. At most the Irkutsk Buryat and the

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts.

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds.

563 177 101 563 [142] [291] [262] [493] [501]

Goldi, Olcha, Orochi

101 563 in the winter dog sleds. The position of the women is difficult. [342] Polygamy is permitted. Bride purchase remains today. The Goldi live in small settlements of two to twenty houses, which are built out of mud like Chinese fang-tze /Fansen/. Many of them are half sunk in the earth. In the summer, however, the Goldi gladly leaves his fixed house and moves into his original domed tent, which is covered with birchbark or bast mats. In more recent times many Goldi have taken up the cultivation of vegetables, and they also breed pigs and chickens. The Samaghir, who live on the Gorin, a left tributary of the lower Amur, can be named as relatives of the Goldi. Their culture corresponds to that of the Goldi, but many expressions in their language indicate that they formerly were reindeer breeders. At present they devote themselves exclusively to fishing and hunting. Further downstream live the Olcha, who have also spread to the coast of the Tatar Strait and to Sakhalin. On Sakhalin they call themselves the Orok. The Olcha are also hunters, fishermen, and dog breeders. However, in contrast to the semi-nomadic Goldi, they are sedentary, and they all pursue agriculture in slight measure. Various signs indicate that they also were once reindeer breeders as their relatives, the Orok on Sakhalin, still are today. The total number of Olcha and Orok can scarcely exceed 2,000. More numerous--around 2,500--are the Orochi, who are also often called Udekhe (after the river Udekhe). Split up into numerous small groups, they live in the valleys of the middle and southern Sikhote-Alin' and also on the side toward the sea and the Ussuri. Many of [179] them, especially in the south, are under Chinese influence and speak, reside, and live in a Chinese fashion. However, in the heart of Sikhote-Alin' they have remained rather pure and still live as true forest people, as Arseniev described them, and they show pronounced [141] Tungus traits. The men on the average are 1.60 meters tall, and the women 1.45 meters. Their small hands and feet are striking. [301] Like the Goldi they once wore ear and nose rings, and this custom still exists among the Orochi-Udekhe, although only among the [342] women. They still live in pointed tents in contrast to the domed tents of the Goldi, in which the tent poles are bent together to form a dome and which recall, in their form, the yurts of the Mongols. On long trips, however, the Orochi did not take his tent along, since the tent was too burdensome for him; instead, while he was on his way, he built a simple protective tent out of twigs. The pure Orochi is only a hunter and fisherman. The social order of this people is

Koryak, Kamchadal

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563 together in villages in crudely constructed wooden houses. The leather boats, which they still use for hunting and fishing, are disappearing more and more. The Reindeer Koryak have also already grown far from their original culture. They are primarily reindeer breeders and own large herds. They live nomadic life wandering between the valley regions protected from the wind in the winter and the gnat-free mountainous tundra in the summer. The square winter hut, which is built [342] from wood and is half sunk in the earth, is built in imitation of the Russian house. They recall the old pit dwelling of Europe. Only in the summer do they use their round, transportable tent, which in its original form consisted of a framework of poles covered with reindeer skins. Today, however, it is often only a type of board shanty, since their wanderings are mostly limited to short stretches. The winter huts as a rule lie on rivers and are permanent constructions. Older people often remain in the winter huts even in the summer, and accordingly [142] the Koryak must be designated as semi-nomadic. Physically the Koryak are medium to short in height with straight black hair, slight growth of hair on the face, and brown-bronze skin color. They make their [281] clothes out of reindeer, wolf and dog skins, and they make lighter clothing for the summer from seal skin. In this /110/ they show a color-happy feeling for art and decorate their clothing with strips of hide of different colors or with leather which they form into various ornaments.

The Kamchadal or Itelmen occupy the southern part of Kamchatka Peninsula, primarily the southern part of the western coast and the Kamchatka valley. Their number earlier must have been much greater, for old reports speak of tens of thousands. Today their number can • [177] scarcely be determined since a very large part of the people have been completely Russianized. Many have almost forgotten their own language. It is interesting that numerous Russians in the first wave of colonizers are completely absorbed in the Kamchadal and cannot be distinguished from them at all in mode of living and customs. In some villages on the western coast between Zedanka and Zepochnoye there are still pure Kamchadal, who number around 800 (1930). Often these people alone are designated as Itelmen and contrasted to the Kamchadal. They [342] have abandoned their original earth hut, which can still be encountered in the interior as a base for hunters, and they live in clumsy wooden houses of the Russian type. Fishing is their principal occupation. In the winter, however, they move into the mountains to hunt fur animals. Their houses stand unordered in loose groups on the rivers. When the

563 also engaged in smuggling gold. In 1900 it came to a catastrophe when the Russian authorities drove all Chinese over the border. At Blagoveshchensk nearly 5,000 perished who were chased with force into the Amur. The building of cities and industry, however, drew them again and again into the country as workers, and many of these remained in the country as settlers or also as frugal artisans. Culturally they have had a very strong influence on the natives, who, like the [177] Udekhe in southern Sikhote-Alin', have not only taken over the material life of the Chinese but have even given up their language in favor of that of the Chinese. Chinese clothing and the Chinese houses have asserted themselves as far as the Gilyak on the lower Amur and stand everywhere in competition with Russian influence, [342] which gradually has asserted itself. The Chinese house, the 'fanse,' has mud walls. Its gabled roof is covered with straw. Almost the entire front side is taken up by large windows, pasted over with oil-paper and covered with bars; these windows can be slid out and removed. On the sides and along the back wall there are no windows. [354] In the interior of the 'fanse' a small stove with an iron boiler lies on each side of the door. Smoke ducts lead from these two stoves under [352] the sleeping places which built from stone and mud, extend along the walls and fill nearly half the room. This type of plank bed, designated a "kang," is approximately 0.50 meters high. From these the smoke ducts then lead to the chimney, which is likewise made of stone and mud. Because of the danger of fire, the chimney always stands alone and somewhat away from the house. It is not uncommon for the 'kang' to have its own heating also. The farm buildings are [351] usually attached to the house at right angles, and the square courtyard thus formed is closed off behind by a wall or a fence. The Chinese also like to mark off a rectangular area in front of the house, or to surround their entire lodging with a wall which is often very thick; the natives, however, mostly are satisfied with the house alone, which is often only a wretched, dirty mud hut, whatever the layout.

[162] Of the 87,999 Chinese who lived in Siberia in 1939, approximately half live in the southern Ussuri region; the remainder are mostly scattered in the cities. The number of women among the Chinese is very slight and amounts to only 6 percent. In the southern Ussuri region, therefore, the number of Chinese-Udekhe half-breeds is large; they are generally designated "tas."

The Korean element in the population is entirely different. Some old villages in the Pos'yet area have existed since time im-

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

10: Laufer--368-370 E-3 (no date) 1917 Northeast Asia-2
116, 114, 177, 197, 756

The Turkish word kam is of ancient date(3)It is attested (and this is its earliest occur-

3. The Russians have derived from it the verb kamlat' (to shamanize, to conjure, to spell, to prophesy) and the noun kamlanie (the act of shamanizing).

rence) in the Chinese Annals of the T'ang dynasty (618-906), where it said with respect to the Kirgiz(4) that they designate their sorcerers or shamans (Chinese wu) with the word

4. Regarding this name and its ancient Chinese transcriptions see Pelliot and Laufer, T'oung Pao, 1916, p. 295.

kam. The last character now reads kan, but was anciently possessed of a final labial nasal, which is still preserved in the dialects of southern China. Chinese wu is a very ancient term for the native medecine-men.(5) The word kam, further, is found in Uigur(6)

5. Regarding their activity see Chinese Clay Figures, pp. 109-200.

6. In the Kudatku Bilik, written in A. D. 1068 (H. Vámbéry, Uigurische Sprachmonumente, p. 221).

and in the Codex cumanicus of 1303. (7) It is also used by the Persian historian Rashid-

7. W. Radloff, Aus Sibirien, vol. II, p. 67. Nemeth overlooked these data but it is important to note the wide distribution of the word in time and space.

eddin (1247-1318) in 1302, with reference to the shamans of the Mongols.(8) The existence

8. F. Von Erdmann, Temudschin, p. 553, E. Blochet, Introduction à l'histoire des Mongols de Rashid Ed-Din, p. 165.

of the Tungusian word šaman can now be traced to the first part of the twelth century, for Pelliot(9) has found it as a Jučen word in a Chinese gloss, where it is transcribed in the

9. Journal Asiatique, 1913, mars-avril, pp. 466-469.

form šan-man and explained as a sorceress. The Chinese transliteration would presuppose Jučen form šamman. Indeed we still meet forms with double m in the dialect of the Wilui Tungus, --samman and xamman. (10) The latter with initial spirant represents the

10. Recorded by R. Maack, Wil'uski okrug (The District of Wilui), pt. 3, p. 116.

missing link between Turkish kam (in the language of the Soyot or Urangkhai xam) and the Tungusian forms with initial sibilant. The [370] alternation of k and x is well known, (1) likewise x, h, and s, alternate in Tungusian dialects. (2) For this reason

1. W. Radloff, Phonetik der nördlichen Türksprachen, p. 108.

2. A. Schiefner, Melanges asiatiques, vol VII, 1877, pp. 338-339.

it is justifiable to correlate the forms kam and xam with Yakut xammā, xamsā (to move, to be agitated; xām, to step, to stride), (3) and to interpret the significance of the word

3. O. Böhthingk, Jakutisches Wörterbuch, P. 79.

from the shaman's peculiar behavior, his solemn and pompous pacing, his ecstacy, his convulsions, his frantic leaps and dancing. (4)

4. This explanation was first given by V. F. Troščanski, Evolutsiya černoi v'äry (šamanstva) u Yakutov (Evolution of the Black Faith among the Yakut),

(Kazan, 1902), p. 117. D. Banzarov (Černaya v'ära, p. 35) held a similar view, but arrived at it through a different process by connecting the word with Manchu samarambi and Mongol samoromoi, samagu; aside from the fact, however, that these words do not have the meaning required, or forced into them by Banzarov, they can by no means be reduced to the stem sam. --Kam is not a Yakut word for the shaman, as wrongly stated by A. van Gennep ('De l'emploi du mot "chamanisme,"' Revue de l'histoire des religions, vol. 47, 1903, p. 52, the Yakut term is oyun."

l: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

tion and those who preferred the Russian alphabet or at least a 'mixed alphabet' in which Russian letters would predominate.

In the Soviet Far East the ethnographic section of the Society for Regional Research declared itself with great vigour against all attempts at russification. In a memorandum the Society listed four reasons why only the Latin alphabet could be introduced for the languages of the Chukchi, Koryaks, Nanai, Nivkhi and the other Far Eastern tribes:

1. The successful latinization of the alphabets of the oriental languages.
2. The genuinely international character of the Latin alphabet.
3. The inadequacy of the Russian alphabet which would have to be supplemented by a number of letters.
4. The fact that the Russian alphabet itself would not be long-lived since progressive scholars had already raised the question of its latinization.[18]

These four considerations were shared by the Moscow authorities who had decreed the introduction of the Latin alphabet for the Northern peoples.

The Latin alphabet remained in force for less than six years – until February 11th, 1937, when a new decree abolished and replaced it by a russianized alphabet. The new script was intended for thirteen small nationalities of whom eight lived either wholly or partially in the Far East. The replacement of one alphabet by another rendered necessary the destruction of a large amount of printed material that had been prepared for the Northern peoples. Between 1931 and 1933 alone as many as 200,000 textbooks, 100,000 pamphlets of a political nature and 10,000 books on medical and economic subjects had been issued for them.[19]

Soviet school policy proper did not suffer from such a disturbing lack of continuity as the Soviet literacy campaign. The number of schools increased systematically and steadily and now there are as many as 200 native schools in the Khabarovsk Territory. They are supervised by a Council of National Schools which was created in 1949 and which works under the education department of the Khabarovsk territorial administration. The Council does not only administer schools but also deals with all problems connected with the writing of text-books, and the translation of classical Russian and Soviet literary works into the local languages. The Council relies on the graduates of the teachers' training colleges in Petropavlovsk (for South Kamchatka), Anadyr (for Chukotka), Tigilsk (for North Kamchatka) and Nikolayevsk-on-Amur. The most important and largest of the four is the college in Nikolayevsk. Between its foundation in the early 'thirties' and 1951 it trained 170 Russian and 105 native teachers belonging to ten different Far Eastern nationalities.[20] The most gifted young people from among

pompous, mostly very tasteless buildings of the Czarist period. But in the suburbs one-story log houses with four or more windows often line the unpaved streets with wooden sidewalks for kilometers. In the period of the Soviet regime the large cities have acquired entirely new sections which are transected with asphalt streets lined with trees, and on these streets rise light, detached apartment buildings, often with four or more stories; these apartment buildings seem almost like skyscrapers against the otherwise flat picture of the city. Chimneys and thick, reinforced concrete buildings of the factories, which today are most striking, rise above the new buildings as a rule. Thus in the cities there are the contrasts ranging from the old, primitive, peasant-like suburb to the most modern industrial establishments. Nevertheless, almost nowhere does one note that he is in the Far East. Even in the Chinese quarter of Vladivostock there stand the same whitewashed tenement houses, and only the Chinese writing and the nearby junk harbor betray the fact that one is in an east Asiatic harbor city.

The state-directed economy with its tight compression into cities and collectivization in the country has introduced many new traits in the life and work of the people, and many old, proved things have been destroyed. It has mixed people up and done many new things, so that everything is in the process of fermenting, of being reformed even in the folk life of the Russians.

Chinese, Koreans, and Others

In Transbaykal Chinese are encountered very rarely. They used to be there in larger numbers as traders in Maimache, the present Altin-Bulag, opposite Kyakhta on the Mongolian border, but they were driven from there during the uprising of the Mongols after the first world war.

The first Chinese came to the Amur and Ussuri country as ginseng-seekers, as "panten"/unhardened antlers/ hunters, and as traders, and later also as settlers. As culture pioneers they were valuable everywhere in the wilderness where they could practise agriculture, which they pursued industriously and successfully. Their ability to make capital out of everything, however, soon made them into unscrupulous exploiters of the natives, and, accordingly they were unwanted guests under the Russian administration, especially since they carried their rich earnings out of the country, then /115/, as a sworn community in trade, they suppressed all competition. They

113, 185, 243, 311 Siberia RR1

[For a discussion of the Soviet agricultural program announced in the spring of 1954 to add some 70 million acres to the area of grain cultivation in western Siberia and northern Kazakhstan, see 75: Jackson, R1 Soviet Union, entire source.]

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

THE FAR EASTERN TERRITORY

636 During the whole period from 1922 to 1937–38 the Soviet Far East enjoyed a special position within the Soviet Union. From the administrative point of view the Soviet Far East formed one large unit, the 'Far Eastern Territory' (F.E.T.). It covered roughly one-eighth of the entire surface of the U.S.S.R. The F.E.T. existed from January 1926 until October 1938, but there was a slight amputation of the territory in 1930, when the districts of Sreten and Chita were detached. Militarily, too, the Soviet Far East had a semi-independent existence by the establishment, in August 1929, of the Special Far Eastern Army ('Osobaya Dalnevostochnaya Armiya') usually referred to by its initials as ODVA and a year after its foundation as OKDVA (Osobaya Krasnoznamyonnaya Dalnevostochnaya Armiya', meaning 'Special Far Eastern Army decorated with the Order of the Red Banner').

Both army commanders and administrators in the Far East showed a considerable degree of independence, which, in some cases, even expressed itself in open opposition to the régime. This is true, in particular of the party leaders of Vladivostok, a city which, like that other opposition centre, Leningrad, was a window into the world. The radical course, aiming at the liquidation of the remnants of private property, which the Bolshevik Party took after its Fifteenth Congress (1927) did not meet with approval in a trading centre like Vladivostok. Both Vladivostok and Chita became, in the late twenties, strongholds of a right-wing opposition and the Central Committee in Moscow had to dismiss the local party chiefs.[3]

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●185 578 Difficulties between the centre and the Far Eastern communists continued after the suppression of the right-wing deviation. Problems connected with the implementation of the First and Second Five-Year Plans were an almost inexhaustible source of disagreements. Already during the first Five-Year Plan period the State Planning Commission in Moscow had worked out big development schemes for the Far East, providing for the building of additional railways, an increase of coal and oil production, and far-reaching industrialization. When it became clear that many of the envisaged projects could not be carried out neither Moscow nor Khabarovsk wanted to take the blame for the failure. The central authorities complained about the inefficiency of the 'Far Easterners' and the latter denounced the lack of understanding of the officials at the centre. At the Sixteenth Party Congress, which was held in 1930, the spokesman of the F.E.T., Perepechko, referred to the 'hideous attitude of various central organizations' towards the economic problems of the Far East.[4] If it were not for this negligence, Perepechko asserted, the F.E.T. would carry out the basic tasks of the Five-Year

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185 578 Plan in three years. The later development showed that it took not three but ten years to reach the target figures which the first Five-Year Plan had fixed for the coal and oil production of the Far East.* The Central Government refused to admit that the shortcomings in the Far East resulted from deficiencies of all-Union planning, and tried to put the blame on local scapegoats who were charged with committing deliberate sabotage. More than that, the Central Government alleged that the Far Eastern administrators were 'Japanese spies', although they were, presumably, no more connected with Japan than the Leningrad opposition was linked with Germany. The Far Eastern communists, it is true, had shown great eagerness to establish commercial relations with other Pacific countries including Japan, but this had been done with the agreement of the centre.

THE PURGE OF THE 'CIVILIANS'

661 687 665 Although there was no evidence for charges of high treason the Soviet Government carried out a purge on a vast scale throughout the Soviet Far East. It would be incorrect to say that there was one big purge. There were at least two purges, one directed primarily against 'civilian' communists, and another aimed mainly at the army. The first purge, which was closely connected with economic shortcomings, started in the first months of 1937 and led to the disappearance of the head of the administration of the F.E.T., Krutov, and of the party secretary, Lavrentev. At the same time administrative heads and party officials were sacked all over the Soviet Far East. For many months there were no 'first secretaries' in many city committees and district committees of the Communist Party.

There is one aspect of the purge of the 'civilians' in the Far East which deserves special mention, the purge of the railwaymen. The railwaymen of the Far East were traditionally the backbone of the Communist Party in that distant part of the Soviet Union, and the solidity of Moscow's connection with the Pacific coastal areas depended largely on their efficiency. In the 'thirties' their job became increasingly difficult. Between 1933 and 1936 the freight turnover of the Far Eastern railways had increased three times. This was more than they could stand. The Far Eastern railway system broke down. A great many accidents occurred. The Government asserted that they were all engineered 'on instructions of the Japanese intelligence service.' The supreme responsibility for the wrecking of trains was officially attributed to Trotsky and to the

* Production of oil was to reach 464,000 tons by the end of the first Five-Year Plan in 1932. In 1933 output was 196,000 tons; in 1936, 308,000 tons, and in 1938, 360,000 tons. The coal target for 1932 was 4,000,000 tons. In 1933 output had reached 2,020,000 tons, and in 1936, 3,617,000 tons. The target for 1937 was 5,000,000 tons, but actual production in 1938 was only 4,750,000 tons.

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

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higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

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demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[25] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[26] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[27] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

131 The pivot of this circle in its movement from north to south, from the mouth of the Amur to Tientsin, lies in Transbaykal, from which radiate the main traffic lines in these directions. The radius of this circle has currently been shortened by the airline from 2,250 kilometers to around 1,600 kilometers.

If Transbaykal thus represents the point of departure for the power position of the Soviet Union, this region's large share in the total area of the Far East constitutes a foundation; for through this region the Soviet Union has also become an East Asian land power, which is undoubtedly very conscious of its position as such. The fact that Manchuria is surrounded /by Russia/ on the northwest, north, and east and the fact that the railroad lines to Vladivostok and Dalny' /Dairen/ run through Manchuria brought this Chinese region under the economic influence of the Russians even in Czarist times. When as a result of the outcome of World War II the Russians won back the positions in Manchuria which they lost from 1903 to 1940, the Russians were again in possession of or had the use of the main railroad lines in Manchuria and the harbors in /14/ southern Manchuria. This means for the Soviet Union again an extension of her economic sphere of influence, which at least equals that of the Czarist empire at the time of its greatest power, and even far exceeds this if consideration is taken of the political events and proceedings of the last few years in East Asia.

• 185 311 In this the strength of the Soviet Russian position in East Asia depends essentially on the development of her own Far Eastern regions. The present state of colonization and the economy both in Transbaykal and in the real Far Eastern regions shows that these are only at the beginning of their development. Up to now only a small percentage of the land suitable for agriculture has been brought under cultivation, and the exploitation of the natural resources has begun only in small areas. However, the progress which has been made in these spheres even during the Soviet regime reveals that this regime is determined to continue to give the necessary stress and upsurge to the favorable beginnings. The preferred, planned colonization shows this; and the tendency apparent in recent years to lead stronger forces into the industrial sector also indicates that the Soviet Union has the intention of creating in these regions a balanced economy in which all natural resources are given equal recognition. The planned economy of the Soviet Union, which intends to give as self-sufficient as possible a position to all the large economic areas, is especially

clearly manifest here; indeed, the distance and the remoteness of this region from the economic centers of the total union even force them to pursue this policy. In this, a role is not only played by the basic thought of populating these remote but well-situated regions, but also of making them as self-sufficient and strong economically as possible. The opportunities which are given the Soviet Union here cannot be estimated. They are great; only time is required to exploit them.

In connection with the above statement the unique position which the Far Eastern transportation network occupies within the Soviet Union as a whole, deserves to be brought out. A look at the map shows that the entire, complicated railroad network in the western part of the Soviet Union comes together into a single railroad line as it heads toward the Far East. This crosses the Yenisey at Krasnoyarsk and runs as far as Ulan-Ude in Transbaykal. Only here does it begin to split up and to develop into a transportation network, insofar as one can speak of such a thing in the Far East. On this single railroad line, which does, however, have two tracks, depends the entire connection of Transbaykal and the Far Eastern region with the rest of the Soviet Union. Even the completion of the Baykal-Amur line does not eliminate the bottleneck at Krasnoyarsk, and accordingly /15/, a certain self-sufficiency is the result of the development of the railroad network in the Far East.

Transbaykal and the Far Eastern region represent the extreme border position of the Soviet Union in East Asia. As remote border regions, they are really the Far East for the European part of Russia. One sees the sun rise and set eight times before one, coming from Leningrad in the Siberian Express, reaches Chita, the capital of Transbaykal, and another day and a half passes before one arrives in Vladivostok. More than 8,000 kilometers by air lie between the western and eastern borders of the Soviet Union. Chita is 6,236 kilometers by railroad from Moscow; Vladivostok is 9,333 kilometers from Moscow via Khabarovsk, and still 8,312 kilometers via the north Manchurian line by direct route.

But even within the Soviet Far East, a distance which seems extraordinary to the European has to be covered to travel from one end to the other. There are around 2,500 kilometers between the southwestern tip of Lake Baykal and the mouth of the Amur, and the airline from Pos'yet Bay, southwest of Vladivostok, to Cape Dezhnev on the Bering Strait is almost 5,000 kilometers long. Sakhalin Island

Soviet Union can rely on rich experience in the execution of projects of this type. Sufficient preparations in this direction have been made, as is summarized in the Atlas of Sources of Energy in the USSR, and from these preparations it can be seen what significant sources of energy, precisely in water power, still lie unused. The potential energy of water power in the Buryat-Mongol ASSR is estimated to be 7 million kilowatts. Chita Oblast is considered to be less favorable. The other Far Eastern regions are all the more richly equipped: their energy is reckoned to be 31 million kilowatts.

The Processing Industry

Some of the various branches of the processing industry have already been mentioned in the discussion of the raw material concerned. This applies especially to the wood and fish industries, which far exceed all other industrial branches, both in the number of plants and in the number of employees in these plants. From the extraordinary wealth of fish and wood it follows that the Far Eastern regions can not only supply themselves with these products but also that with their surplus they can contribute significantly in increasing measure to the supplying of the other parts of the Soviet Union. Wood, wood products, fish, and fish goods, therefore, form also the principal freighted goods which are sent out of the Far Eastern regions. World War II has had an extraordinary influence /177/ on the development of the other branches of industry. Various plants which had been moved to the Far East remained there after the end of the war; other plants were newly created or switched to another type of production in order to replace the loss in production in the areas affected by the war or also to ensure their own needs. Thus the supply situation today is generally more favorable than before World War II, and after this war it has been further improved by the erection of new installations.

In the selection of the location of the industrial plants the same principle apparently appears again and again. This principle is to so distribute these plants regionally in the vast area of the Far Eastern regions so that long transportation hauls are avoided as much as possible. The goal of this planning is to so equip the various areas with industrial plants so that each region can supply its own principal needs. The best example of this is the city of Magadan, from which the mining districts on the upper Kolyma are supplied and whose harbor is free of ice for scarcely six months. Besides repair installations for ocean-going ships

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I

THE RUSSIANS OF THE SOVIET FAR EAST

Outwardly there is no great difference between the Russian Far East and the rest of the Soviet Russian Empire. The Communist Party seems to rule in Vladivostok and Khabarovsk as firmly as in Moscow and Leningrad. Nevertheless, the Russian Far East has an individuality of its own and has its special problems. Vladivostok lies as far away from Moscow as London does from Winnipeg, Capetown or Calcutta. Such a gigantic distance must have political consequences even in an autocratic or totalitarian state. In territories where Russia borders on China, Korea, Japan and the United States, the outlook of the local Russian inhabitants is bound to differ from that prevailing on the banks of the Don or the Volga. Geographical circumstances force the Russians of Vladivostok, Blagoveshchensk or Khabarovsk to feel themselves 'Far Easterners' ('Dalnevostochniki'), pioneers who have a special political and historic mission, incomparably more complicated than the tasks confronting the population of Central or Western Russia.

In Czarist Russia it was generally understood that the Far East was a 'special case'. Until Russia suffered defeat in the war against Japan in 1905 she looked upon her Far East as a base for the conquest of wide Asiatic territories – Manchuria, Korea, China and Tibet. There seemed to be no limit to her imperialistic ambitions. Japan's victory completely changed this situation. Russian expansion in the Far East met with a serious setback, and many Russians even doubted whether Vladivostok and other Far Eastern possessions of the Czarist Empire could be held for any length of time. Russia, it is true, was connected with the Pacific coastal areas by the Trans-Siberian Railway, but there was widespread fear that this link might not prove solid enough. In 1909 the well-known liberal monthly journal of St. Petersburg, *Vestnik Evropy*, warned the government that the Russian Far East might act towards Russia in the same way as New England had acted towards the English crown. The separation of the Pacific possessions from the Russian Empire appeared as a real danger which could be averted only by a policy of concessions and economic privileges. The writer of the article in *Vestnik Evropy* reminded his readers that the revolt of Britain's former North American colonies occurred over a question of customs

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duties and that this should be a lesson to Russia in dealing with her distant Far Eastern colonies.[1] A democratic and liberal Russia might well have granted special rights to the Russian Far East and perpetuated the freedom of customs duties which the ports of Vladivostok and Nikolayevsk enjoyed at the beginning of the century.* The Russian Far East might have achieved, within the Russian Empire, something approaching a dominion status. The democratic régime which was ready to open Russia's windows into the world collapsed in 1917 after only a few months' existence. But even the Soviet régime, which succeeded it, could not escape from the geographical peculiarities of the Far East and from the special mentality of the Russian 'Far Easterners'.

I. THE POLITICAL FRAMEWORK

THE FAR EASTERN REPUBLIC

In the early years of Soviet rule the special communist approach towards the Russian Far East found expression in the establishment of the 'Far Eastern Republic' (F.E.R.). This buffer state was set up by a decision of the Central Committee of the All-Russian Communist Party. The Republic was to appeal to the patriotism and to the anti-Japanese animosities of the Far Eastern Russians, but not to their sympathies for an international communism. It was to have a 'bourgeois democratic character'. Its constitution did not include any provisions about the setting-up of Soviets, but provided for a National Assembly to be elected by universal direct and secret ballot. The national flag of the Republic was red and blue and its coat of arms discarded the communist symbols, hammer and sickle. Instead, it showed an anchor and a pickaxe crossed over a wheat-sheaf. There were no 'People's Commissars' in the Far Eastern Republic, only ministers, and there was no 'Red Army', only a 'Revolutionary People's Army'.

Although the F.E.R. was founded by the Kremlin for mere tactical reasons some of its leaders took it very seriously and they wanted to transform the Republic into a living political reality. They demanded that the F.E.R., which reached in the west as far as Lake Baikal, should extend its territory to the Yenisey River, and they also pleaded for greater independence from Moscow than the Bolshevik Central Committee was willing to grant. Some quarters of the F.E.R. even toyed with

* Complete freedom from customs duties existed in the Russian Far East between 1862 and 1888. In 1888 customs duties were introduced for sugar, matches and kerosene and after 1901 duty had to be paid on industrial articles but not on agricultural produce (except for flour) nor on capital goods. Only Sakhalin and Kamchatka remained exempt. To attract more settlers freedom from customs duties was restored in 1904, but was finally abolished again in 1909.

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the idea of an American orientation and conducted a great deal of propaganda in the United States. A dispute broke out also among the Far Eastern communists as to the selection of the Republican capital. Those who stood for greater independence suggested that the capital should be established there where contact with the non-Russian world was most intimate, in Vladivostok. The Bolshevik Central Committee, on the other hand, realized the dangers inherent in such a move. It ruled that the headquarters of the Far Eastern government should be in the Russian city of Chita and not in the cosmopolitan port of Vladivostok.

Throughout its existence the F.E.R. had a very difficult time. Parts of the Republic were occupied by Japanese troops and others were the scene of white guard activities. Accordingly, the government of the F.E.R. exercised only a nominal sovereignty over certain of its provinces. Paradoxically enough, the Japanese occupation of the F.E.R. was not only the chief source of its weakness but also its principal *raison d'être*. The setting-up of the F.E.R. enabled the Russian Far Easterners, particularly the peasant colonists, to support Soviet foreign policy and the Soviet fight against foreign intervention without identifying themselves with the Communist Party and its economic aspirations. On October 25th, 1922, the last Japanese soldier left the Russian mainland and the need for a 'Far Eastern Republic' ceased automatically. The Constituent Assembly of the F.E.R., in which the communists had four-fifths of all seats, decided to hand over its powers to a 'Far Eastern Revolutionary Committee', the *Dalrevkom*, which was already a direct organ of the Soviet Government.

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The decision of the Far Eastern Constituent Assembly did not mean that the Russians of the Far East were in any way united behind the Communist Party. The communists constituted a minority in the Far East even smaller than anywhere else in Soviet Russia. Early in 1922 they had only 7,000 members in the whole of the F.E.R., and this was on the eve of a purge which aimed at a reduction of the membership by 15 to 18 per cent.[2] The Party relied on the support of a section of the 'Far Eastern Trades Union Congress' (D.V.S.P.S.) which had 40,000 members; but how many of them really sympathized with the communists it is impossible to say. In view of its numerical weakness and isolation the communist movement in the Far East had to go carefully and had to make some concessions to regionalist tendencies. Many people in the Russian Far East continued to favour a special status for their homeland and hoped that after the abolition of the F.E.R. it would not become just another Soviet Russian province. At the beginning their hopes were not entirely betrayed.

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161 167 A decree of January 9th, 1950, giving a new list of constituencies for the Supreme Soviet elections established four new constituencies in the Far East. The constituency of Khabarovsk was divided into a town and a country constituency, another new constituency was formed around the Okhotsk Sea and two more constituencies were created on Sakhalin. The total population of the Soviet Far East would accordingly have been, in 1950, in the neighbourhood of 4,200,000. It is, however, unlikely that this figure was really reached. The population of each of the three Sakhalin constituencies, in particular, may be considerably below the 300,000 mark.

III. THE SOVIET FAR EASTERN MYSTIQUE

● 186 208 The Soviet régime worked for the strengthening of the Russian Far East not only by mobilizing manpower for its colonization, but also by building up a Far Eastern 'mystique', a nationalistic ideology which flattered national pride to the utmost degree. After the end of the Second World War the Soviet Government, with the help of a large army of historians, writers and poets, promoted a cult of Russian heroes of the Pacific. The object of the new propaganda campaign was to show that Russians had played an outstanding part in the discovery of the Pacific and that, by their past records, they were entitled to much more influence in decisions concerning Pacific affairs than the 'imperialist powers' were ready to grant them. The campaign was also intended to prove that Czarist Russia had failed to grasp the opportunities offered to her in the North-West Pacific and that the Soviet Union defended energetically those national Russian interests in the Far East which the old régime had neglected.

RUSSIAN COLUMBUSES

186 208 159 To proceed in a strict chronological order the first 'Russian hero of the Pacific' to be mentioned is Semen Dezhnev. Soviet propaganda popularized him particularly in connection with the tercentenary in 1948 of the discovery of the Behring Strait, which separates Asia from America. The Danish explorer, Vitus Behring, after whom the strait is called, may only have rediscovered it one hundred years after Dezhnev had sailed around the 'nose of Asia', the north-eastern tip of Siberia. As late as the nineteenth century, some outstanding Russian scholars still doubted whether Dezhnev could really be credited with this daring feat. Soviet writers, however, are quite positive about Dezhnev's pioneer role. In 1945 the Chief Administration of the Northern Sea Route issued a popular book on Dezhnev, which waived aside all doubts as to Dezhnev's voyage, and described Dezhnev himself as 'a glorious representative of the all-enduring Russian people'.[28]

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●186 208 159 The next 'Soviet hero' operated on the other side of the Behring Strait, in what, until 1867, was called 'Russian America'. He was the Russian merchant, Grigory Ivanovich Shelikhov, who, in 1784, founded the first permanent Russian settlements in Alaska. Shelikhov's contemporary, the great poet Derzhavin, called him the 'Russian Columbus'. This description, 'Russian Columbus', plays a great part in Soviet propaganda. Because of a feeling of inferiority, *vis-à-vis* the Western World, the Soviet Union has claimed a large number of inventions and geographical discoveries for the Russians, including the discovery of America. Columbus discovered only the American East coast. North-West America was a Russian discovery for which the credit goes in the first place to Shelikhov. It is obvious that the Russians of the Soviet Far East and of Eastern Siberia are most easily attracted by the idea of a 'Russian Columbus'. The Mayor of Irkutsk and the head of the Irkutsk provincial administration have been in the forefront of those who have advocated a systematic publicity campaign for extolling Shelikhov's memory. These two, together with seven other distinguished Soviet citizens, demanded in a letter to the Moscow *Literary Gazette* in October 1950, that Shelikhov should be honoured lavishly on the 155th anniversary of his birthday. In the centre of Irkutsk a Shelikhov monument ought to be erected, they recommended. The Ministry for Cinematography was to produce a film on the 'Russian Columbus', the All-Union Society for the Dissemination of Scientific and Political Knowledge to organize lectures throughout the country about his life and deeds, and the State Publishing House for Geographical Literature was to publish his biography.[29] Since then many of these demands have probably been carried out.

Shelikhov's epithet, 'Russian Columbus', has frequently been challenged. Russian historians of the nineteenth and twentieth centuries considered Shelikhov a braggart who greatly exaggerated his Alaskan exploits, and in particular, the number of Alaskan natives converted to Christianity, so as to get larger subsidies for his trading firm. This poor view of Shelikhov was taken by the pre-revolutionary *Russian Encyclopedia*, and the first edition of the *Soviet Encyclopedia* has not corrected it. According to the latter, Shelikhov was just a 'representative of merchant capitalism' not worthy of major attention. Nevertheless, Shelikhov was a man of vision. He conceived the bold plan of a Russian Empire in the North-West Pacific which would have its granary in California and its naval base in the Hawaiian Islands. Shelikhov also wanted to encourage trade relations with China, Japan and India, and he dreamt of voyages to the Philippines, and even to the North Pole.

Shelikhov's successor, Aleksandr Andreevich Baranov, who started a more systematic exploitation of Russian America by founding the 'Russian-American Company', has also his place in the Soviet pantheon.

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Baranov is venerated as a 'self-sacrificing patriot', and a manual for Soviet teachers gives the following appraisal of him: 'Baranov, this outstanding personality, during twenty-eight years kept the administration of Russian America firmly in his hands. Thanks to his personal courage and keen intelligence he opened up and explored its vast spaces. In a hard struggle with privations, the hostility of militant tribes and the mean intrigues of foreign merchants, he established Russian rule over the huge territories of Alaska and Northern California'.[30] Baranov has also become the hero of an historical novel. The author of the novel, Ivan Kratt, described Baranov and his associates as modest and just people, without prejudice against natives, and loved by everybody with the exception of a few villains.[31]

'RUSSIAN AMERICA'

Among Baranov's collaborators there is one whom the Soviet régime has particularly singled out for posthumous glorification, Ivan Kuskov. Until the beginning of 1948, Kuskov's name was unknown even to many well-educated Russians. The Soviet Government rescued it from oblivion by a propaganda campaign on a large scale, which started in Torma, a small town in the Northern Russian Province of Vologda. The town council of Torma met and decided to erect a monument to Kuskov. The importance of this gesture might have escaped the peoples of the Soviet Union had not the Russian Press explained and advertised it all over the country. Kuskov appeared as the man who, acting under Baranov's general orders, had extended Russian America from Alaska to California. It was he, who, in 1812, had hoisted the Russian flag at the entrance of San Francisco Bay and founded 'Fort Ross', the southernmost Russian-occupied point on the American continent.

Not only the biographies of people like Shelikhov, Baranov and Kuskov have been reinterpreted, but the entire history of 'Russian America'. Alaska is not a conquest of Russian Czarism and imperialism, but belongs to 'democratic Russia', to 'people's Russia'. 'The settlement of Alaska by Russians', said the *Literary Gazette*, 'bore a clearly expressed labouring and democratic character dissimilar to the trade-plundering colonization by the Anglo-Saxons, who recruited their agents from among tramps, adventurists and criminals'.[32] The same point is elaborated in greater detail in what is purported to be a popular scientific booklet on the history, geography and economic conditions of Alaska. There, it is said that the colonization of Alaska was progressive because most of the Russian settlers were peasants, eager to shake off the arbitrary rule of the estate owners. Many people went to Alaska because they found the oppressive atmosphere of the Czarist régime unbearable. Others were sent there because of their political con-

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victions. Not only was the colonization of Alaska itself 'progressive' and 'democratic', the management of the Russian-American Company also was. One of its chief executives, K. F. Ryleev, was executed for his part in the December rising of 1825, and there were other prominent 'Decembrists' among the officials of the Company.[33]

Soviet propaganda has tried to show that Baranov and Kuskov conducted a progressive policy towards the natives of North America, totally different from the Anglo-Saxon or Spanish policy towards Red Indians. This is untrue and has been contradicted by Russian sources themselves. A Russian naval officer, who visited Alaska at the time of Russian occupation, has given the following eloquent description of Baranov's policy towards Eskimos and Aleuts: 'Woe to those who resisted him. He destroyed them mercilessly, deported them to uninhabited islands, deprived them of all means of contact with each other, and mixed people of various tribes so that there could be no malicious conspiracy against the Russians. He was feared by the savages, they considered him as the scourge of heaven. Since they had no chance to revolt they were forced to become his slaves and to forget all about their previous freedom'.[34] As a matter of fact, the Aleuts revolted against Russian rule, as the Russian historian, Shashkov, pointed out in his book on the Russian-American Company, and these revolts led to the extermination of a large part of 'this restless people'. How many Aleuts have perished altogether in the years of Russian rule it is impossible to say. According to the official data of the Russian-American Company there were 8,405 Aleuts in Alaska in 1824, but only 4,363 were recorded in 1859. It would be true to say, therefore, that Russian colonization of Alaska was, from the humanitarian point of view, by no means better than, say, British colonization of Australia in its initial stage.

Nevertheless, Russian policy towards the native peoples of Russian America did have its brighter aspects. Those responsible for it, however, were not Shelikhov, Baranov and the other newly discovered national heroes of Soviet Russia, but people whom the Soviet régime is not very keen on publicizing, the Christian missionaries. It was they who founded the first schools in Alaska, educated a fair number of natives, and even translated religious books into the Aleut language. The most important Russian churchman working in Alaska was Ivan Veniaminov (1797–1879). He was the author of a grammar of the Aleutian language which was published in St. Petersburg in 1846. The 'apostle of Alaska', as the Russian historian, Zernov, calls him, became later, under the name of Innokentii, Metropolitan of Moscow.[35]

The scope of these Russian church activities was, however, very small and one cannot say that the end of Russian rule in Alaska, in 1867, meant in any way a major loss to the native peoples; but of course it was, historically speaking, a great loss for the Russian State. Soviet Russia was

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more conscious of this loss than Czarist Russia had ever been. In Soviet political literature published after the Second World War the abandonment of the Russian outposts in California in the 'forties' and the sale of Alaska to the United States appear not only as regrettable blunders, but almost as acts of treason on the parts of the Czarist Government.

THE RUSSIAN PACIFIC

Russian traditions in the Pacific, as presented by Soviet propaganda, are by no means confined to Russian rule over Alaska and 'Fort Ross'. Quite a number of Russian naval expeditions took place throughout the nineteenth century in various parts of the Pacific Ocean. The public, and particularly Soviet youth, has been acquainted with them since 1945 in various ways. Stories about these expeditions have been written anew, in the form of historical novels or of straightforward descriptions, with the obvious object of stimulating national pride.

From this patriotic Soviet Russian literature centring on the Pacific one can learn a great deal – for instance, that the Russians discovered as many as 400 small Pacific islands, more particularly those belonging to the Paumotu Archipelago in the South-East Pacific, and some of the Marshall Islands. All these islands had been named after Russian generals in the war against Napoleon, and other famous Russian historical figures. Some of the Russian names still persist. Thus the, Lisiansky Island, a possession of the U.S.A., east of Midway Island, bears the name of a well-known Russian seafarer, and east of Samoa there still exists a Suvorov Island belonging to Britain. Also, the big island of New Guinea has important Russian associations. Russians are not credited with its discovery, it is true, but it was a Russian scholar to whom was due the first detailed description of the Papuan people. The Russian explorer, Miklukho-Maklay (1846–88), spent some time with the Papuans. The result of his observations was included in his diaries, which were not published until the Soviet régime came to power. As the Russian geographer, L. S. Berg, puts it, Miklukho-Maklay died before he succeeded in writing his fundamental scholarly works, but, even so, he is highly honoured in the Soviet Union. After all, he was the first Russian to demand that Russia should have a colony in the Pacific.[36] The Institute of Ethnography of the Academy of Sciences has been called after him and a play 'White Friend' has been produced in which he is the central figure. He appears there as the 'champion of black and coloured peoples enslaved by the colonizers of the West'.[37]

'NEVELSKOY'S IMMORTAL FEAT'

For Soviet patriotic ideology one historic personality is more important

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR 1

than all those mentioned so far, Admiral Gennady Ivanovich Nevelskoy (1813–76). The entire modern Russian Far Eastern policy goes back to his geographical discoveries. They resulted in the Russian annexation of the entire Lower Amur region up to the Ussuri confluence, as well as in the Russian seizure of Sakhalin. Until Nevelskoy's expedition, the Amur was not recognized as a 'useful' river and a channel of Russian expansion, nor was it known that Sakhalin was an island and not a peninsula. Nevelskoy, who had sailed from Kronstadt across the Atlantic and the Pacific, on August 13th, 1850, hoisted the Russian flag at the point of the Amur estuary which later became known as the town Nikolayevsk Amursky. Hence, the Amur region became the only part of Russia which was annexed by a naval expedition. Nevelskoy's 'immortal feat' enabled the Russian Empire to concentrate in its Far Eastern policy on areas close to the Chinese border, instead of using up its efforts in the distant Kamchatka or even Alaska. On the one-hundredth anniversary of Nevelskoy's appearance in the Amur estuary, the Soviet régime expressed its appreciation of the courageous seafarer in no unmistakable terms. A monument was erected in his honour in the town of Nikolayevsk and a number of popular books were published on the occasion. The Publishing House of the Central Committee of the Communist Youth League, 'Molodaya Gvardiya', brought out an historical novel largely dealing with Nevelskoy, and the State Publishing House for Cultural and Educational Literature produced a biography of the admiral.[38]

PORT ARTHUR

The gallery of heroes of the Russian Far East would be incomplete without mentioning the defenders of the Russian fortress Port Arthur during the Russo-Japanese War. When Port Arthur fell, Lenin wrote that the Russian proletariat had every reason to rejoice at 'progressive and advanced Asia inflicting an irreparable blow on backward and reactionary Europe'. When looking back on the defence and doom of Port Arthur, Stalin's Russia, however, takes no guidance from Lenin, but from the son of a Czarist officer, Stepanov, who, in 1905, belonged to the garrison of the besieged fortress. This man published, in 1944, an historical novel on Port Arthur which earned highest praise in the most authoritative Soviet circles. The book, which also served as the basis of a play, was, in the first place, a tribute to two great Russian patriots, Admiral Makarov, Commander of the Russian Pacific fleet and General Kondratenko, the main embodiment of the spirit of resistance in Port Arthur. Stepanov did not consider that the defence of Russia's naval base in the Pacific was merely an imperialistic affair. For him there existed the most intimate link between Port Arthur and the entire Russian people. This he expressed by letting General Kondratenko

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR

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make the following appeal to his soldiers: 'Behind us has been left but a narrow strip of Russian land with the town of Port Arthur. *This is our Russian town*: for its construction we have spent millions of our national income and invested a great amount of work. You yourselves have worked to build up the fortifications and batteries. And besides, in Port Arthur is our Fleet. We have to defend stubbornly our positions. The whole fatherland is following the course of the war and the defence of Port Arthur with breathless attention. Let us give all our forces, and if necessary, our lives in order to uphold in dignity the glory of the Russian arms in the Far East'. The book from which these lines are quoted was an ideological preparation for the re-establishment, in 1945, of a Russian naval base in Port Arthur, 'the town of Russian glory', as it is usually referred to.

SERGEY LAZO

The Soviet régime itself has not been able to make any substantial addition to the impressive gallery of heroes of the Russian Far East from Dezhnev to Admiral Makarov. Such 'heroes' as there emerged under Soviet rule, Marshal Blyukher in particular, were liquidated by the Cheka-G.P.U.-N.K.V.D. There is only one important exception to this rule the guerilla leader of the Civil War in the Far East – Sergey Lazo. Lazo was an officer of the Czarist army who went over to the revolutionary camp and joined the Bolshevik Party in the middle of 1918. He fought courageously against the White Guards and the Japanese in the Pacific coastal areas. In 1920 the latter burnt him alive in Vladivostok when he was only twenty-eight years old.

The way in which Lazo died predestined him to become not only a hero of the Soviet Far East, but also a symbol of Russian resistance to Japanese militarism and imperialism. Whenever the name of Lazo was mentioned – in newspaper articles and history books, in songs and in plays – it was meant as a challenge to Japan. But as history in the Soviet Union is always rewritten and reinterpreted in accordance with the propaganda interests of the moment, the personality of Lazo has undergone a revaluation. After the Second World War he became an anti-American figure as well as being an anti-Japanese one. According to an up-to-date version of Lazo's biography, the responsibility for his death lay jointly with the Japanese and the Americans. He was killed 'with the knowledge and agreement' of the American interventionists.[39] A book which prominently featured Lazo's part in the political and military events that took place in the Russian Far East in 1918, N. Kolbin's *Partisans* (*Partizany*), was rewritten with the express purpose of denouncing American intervention. The first edition of the book, which the Far Eastern state publishing house 'Dalgiz' brought out in

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

1948, had only been anti-Japanese. In response to criticism in the official press the author produced, in 1951, a second edition of the same book into which a number of anti-American passages had been inserted.[40]

The interpretation of the personality of Lazo underwent a change in another direction also. Originally, Lazo appeared in Soviet propaganda as an international communist fighting for the victory of the World Revolution in the Far East. As time went on this international aspect was pushed into the background, and Lazo was transformed into a patriotic Russian, although, being a Moldavian of Swiss extraction, he had not a drop of Russian blood in his veins.[41] The favourite quotation which Soviet propagandists of the later period picked out of Lazo's statements reflects indeed a most patriotic frame of mind: 'We shall fight with our lives for the homeland against foreign invaders. For this Russian land on which I am standing now we shall die and shall not give it up to anyone'.[42] It must be admitted that the Russian patriot, Lazo, appeals much more than the communist guerilla leader. A man like Lazo would have become a national hero anywhere in the world, for a person who is killed by foreign invaders under dramatic circumstances always occupies an honourable place in the history of his nation.

These few examples may suffice to characterize the new Pacific 'mystique' which the Soviet régime has created. The whole Russian people is to be indoctrinated with the new Pacific ideology, but in the first place, this ideology is intended as a moral equipment for the Russian settlers on the Pacific coast. They are to be made more sure of themselves, and more ready to overcome difficulties by instilling into them the proud feeling that they are the successors of Dezhnev and Shelikhov, of Kuskov and Nevelskoy, and also, of course, of Sergey Lazo.

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1. *Vestnik Evropy*, vol. 255, January 1909, p. 437.
2. *Zhizn Natsionalnostei*, March 22nd, 1922.
3. *Large Soviet Encyclopedia*, vol. 20, Moscow 1930, p. 289
4. *Pravda*, July 1st, 1930.
5. *Pravda*, May 22nd, 1937.
6. *Pravda*, October 6th, 1937.
7. *Pravda*, November 11th, 1936.
8. *Pravda*, November 28th, 1936.
9. *Pravda*, April 3rd, 1937.
10. *Pravda*, June 11th, 1937.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

ment. They tried to get rid of these credentials as quickly as possible, because they were believed to be bearers of the evil spirit. The resigning chairmen suggested that the local Shamans should be appointed in their place, as they would be more successful in dealing with the spirits. The Party secretary refused to comply with this request, and, after a great deal of arguing, most of the chairmen agreed to retain their credentials, and to resume their jobs.[25] In the novel, *Where the Sukpai river flows*, by Kimonko, which deals with the life of the Udege people, the Shaman is both anti-Soviet and anti-Russian. He expresses his political philosophy in the following words:—'It is better to be doomed than to go to the Russians. The Russians will make soldiers out of us and destroy us to a man... The Russians and the Udege are different people. The man of the forest has laws of his own. One must abide by these laws.'[26]

The Shamans preserved their influence throughout the 'twenties' and early 'thirties'. They played an important part in the resistance movement against collectivization. In fact, the terms 'Shaman' and 'kulak' became interchangeable in the official Soviet vocabulary. But this is the usual simplification with which communist anti-religious propaganda operates. An official Soviet analysis referring to the social origin of 300 Shamans showed that between 50 and 60 of them came from poor families (bednota) and only 5 to 10 per cent were 'kulak elements'. More discriminating Soviet writers have stated therefore that Shamans whilst belonging to various social groups constituted 'a reactionary counter-revolutionary force taking sides with native kulaks and semi-feudal elements'.[27]

In addition to collectivization the Shamans obstructed practically every measure taken by the Government in the economic, cultural and sanitary fields. The target figures of the economic plans could not be fulfilled because the Shamans dissuaded the natives from fishing and hunting on certain days or from killing certain animals, for instance walrus. Soviet newspapers and journals were boycotted because the Shamans agitated against their dissemination. Also the new schools in the Far North and the 'kultbazy'* suffered from the sabotage of the Shamans. The latter persecuted and threatened the lives of Soviet teachers, particularly those of Russian nationality.[28] They hindered the re-education of the northern tribes to a more healthy and hygienic life, and intimidated people to such an extent that they did not dare even to go near a Soviet medical station.[29]

Although there is likely to be substance in most of these charges, they

* The 'kultbazy' or 'Cultural Stations' are political, cultural, and scientific research centres which the Soviet régime organized in the Far North. 'Cultural Stations' usually include a boarding school, a kindergarten, crèches, a hospital, a first-aid post, a veterinary station, a metereological station and even a museum. Most 'Cultural Stations' later developed into townships. Out of the fifteen 'Cultural Stations' three were founded in the Far East, one for the Koryaks, one for the Lamuts and the third for Chukchi and Eskimos.

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

101 563 [621] [583] [776] [763] [769]

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

[197] [281] 101 563 342

10: Laufer-- 361 [2] E-3 (no date) 1917 Northeast Asia
116, 197, 756

"There could never be a serious doubt of the real source from which the word shaman is derived. We received it from the Russians; it was the Russian (chiefly Cossack) explorers and conquerors of eastern Siberia in the second half of the seventeenth century, who heard and recorded the term among Tungusian tribes. It was first brought to Europe by the Hollander, E. Ysbrants Ides, and by Adam Brand, who from 1692 to 1695 accompanied a Russian embassy sent by Peter the Great to China."

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-1-12
116, 197, 756, 114

" It is thus shown that our 'shaman' had its origin in the Tungusian languages, in all of which the word indeed is known as šaman or saman, and with several other variations to be noted hereafter. It would be reasonable to regard the term as of native origin, for it is not likely that the name of a religious institution and function so characteristic of all the tribes of northern Asia should be borrowed from an outside quarter. Nevertheless it was possible that at a time when little was known about Siberian shamanism, and when rigid philological principles were not yet established, the theory could be advanced that Tungusian saman or saman were to be derived from the Chinese šа-men, itself a transcription of Pali samana corresponding to Sanskrit cramana, a technical term for the designation of a Buddhist monk or ascetic. The germ of this idea was well prepared as early as the eighteenth century. The Augustinian Pater A. Georgi(1) states correctly

1. Alphabetum Tibetanum (Rome, 1762), p. 222.

that the Samanaei mentioned by Clemens Alexandrinus(2)are the adherents of Buddha,

2. In fact Clemens avails himself of the form Sarmanai.

and in this connection refers to La Croze, who already hazarded the combination of the

Samanaei with the shamans of the Tungusians (le nom de schaman est un nom de religion d'un peuple tartare, voisin des frontieres de la Chine'). Sanskrit not yet being well known at the time of La Croze and Georgi, the origin of the Greek term Samanaioi escaped them; this is what the philologists of the nineteenth century supplied. (3)

3. Maturin Veyssiere La Croze was born at Nantes in 1661, joined the clergy, suffered persecution on account of his liberal views, fled to Germany, where he turned a Protestant in 1696, and was made a member of the Academy of Sciences of Berlin, where he died in 1739. His work Histoire du Christianisme des Indes, to which Georgi refers, unfortunately is not accessible to me. La Croze was a scholar of wide knowledge and linguistic ability: he was the first who had a presentiment of the relationship of Indian with Persian.

Which of them was the first to assert the connection of the Siberian šaman with the Indian term I am unable to ferret out; this point is immaterial, as the question is merely that of the history of an error. D. Banzarov(4) was inclined, without giving a specific

4. Černaya v'ära, p. 34 (see p. 366).

reference, to fix the responsibility on F. Schlegel, according to whom[363]the çramana among the crude tribes of Central Asia transformed themselves from hermits into shamans. I believe that Banzarov had in mind Friedrich von Schlegel (1772-1829), romantic poet and Sanskrit scholar, who published in Heidelberg, 1808, an essay under the title Über die Sprache und Weisheit dor Indier, ein Beitrag zur Begründung der Alterthumskunde. (1) This is the only one of his works in which such a statement might be

1. An English translation was edited in London, 1889, in F.v. Schlegel's Aesthetic and Miscellaneous Works.

supposed to occur, but on a cursory perusal of this book I am unable to trace it. The idea itself being romantic, there would be no reason to wonder that it took its root in the Romantic School. At all events it was alive in the first part of the nineteenth century. The French sinologue J.-P Abel-Rémusat (1788-1832)became a champion of this theory.(2)

2. Recherches sur les langues tartares (Paris, 1820), p. 133, and Observations sur la doctrine samanéenne et la triade suprême (Paris, 1831).

An ingenious scholar of the type of J. Klaproth (3) was capable of saying, 'Les peuples

3. Mémoires relatifs á l'Asie (Paris, 1828), vol. III, p. 67.

tartares ont sans doute reçu le mot chaman de l'Inde avec le bouddhisme, car il est Indien d'origine, et signifie un homme qui a vaincu toutes ses passions.' In 1857 Max Müller(4)

4. Chips from a German Workshop, vol. I, pp. 233-234.

of Oxford wrote,

> Shamanism found its way from India to Siberia via Tibet, China, and Mongolia. Rules on the formation of magic figures, on the treatment of diseases by charms, on the worship of evil spirits, ont the acquisition of the supernatural powers, on charms, incantations, and other branches of Shaman witchcraft, are found in the Tanjur or the second part of the Tibetan canon, and in some of the late Tantras of the Nepalese collection.

Needless to add that the magical writings of the Tanjur are unknown to the shamans of Siberia and have nothing to do with Siberian shamanism. Still less is it intelligible how Müller could say that ' the only trace of the influence of Buddhism among the Chudic races, the Finn, Lapp, etc., is found in the name of their priests and sorcers, the

shamans.' The word shaman is foreign to any Finno-Ugrian language; it found its way into Finnish (shamani) and Hungarian as a scientific term only, in the same [364] manner as into the Indo-European languages. A. H. Sayce (1) has the following;

1. Introduction to the Science of Language, vol. II, p. 293

> In shamanism, so called from the Shaman or Siberian sorcerer, who is himself but a transformed cramana, or Buddhist missionary priest, we rise to a higher conception of religion.
>
> These superstitions were tenaciously upheld under the influence of the romantic movement of the pan-Indianism, which held the minds of scholars enthralled in the first part of the nineteenth century, and the germs of which are not yet entirely exterminated.
>
> True it is that the Sanskrit word çramana with the Prākrit form samana has become widely known outside of the pale of India. It reached the ears of the Greek writers on India, who described the Buddhist monastics under such names as Sarmanes, Sarmanai, or Samanaioi. The first of these names was recorded by Megasthenes, (2) though the

2. Strabo XV, I, 59.

aingle text of Strabo from which all the existing codices have been copied offers the

erroneous transcription Garmanes. (3) The word has also passed into early Arabic

3. The texts in question are easily accessible in J. W. McCrindle, Ancient India as described in Classical Literature, pp. 65, 168, 170. See further C. Lassen, 'De nominibus quibus a veteribus appellantur Indorum philosophi,' in Rhein. Museum für Philol., vol. I, 1833. pp. 178-180, and Indische Alterthumskunde, vol II, p. 700; E. Burnouf, Introduction à l'histoire du Buddhisme indien, p. 245; T. Watters, Essays on the Chinese Language, p. 403; S. Levi, Journal asiatique (1911), I, p. 445.

records for the designation of the Indian and Bactrian Buddhists (for instance, in Masúdi, Gurdezi, and Abu'l Faradj) in the form samaniyya, while in later literature the form śaman was adopted. (4) In Firdausi's Shāhnāme, completed in A. D. 1010, we

4. Geza Kuun, Keleti Szemle, vol. IV, 1903, p. 133; G. Ferrand, Textes géographiques arabes relatifs à l'Extreme-Orient, vol. I, p. 131. The Mohammedan writers were perfectly conscious of the fact that the term hailed from India and denoted the

Buddhists of India and China. See particularly D. Chwolsohn, Die Ssabier und der Ssabismus (St. Petersburg, 1856) vol. I. pp. 165, 214, 217, etc. As far as I know, the shamanistic religion of Siberian tribes is not mentioned by any early Arabic or Persian author.

find saman in the sense of a worshipper of idols, and this Persian word likewise is traced to Sanskrit çramana and its congeners. (5) Again, it bears no relation to 'our'

5. P. Horn in Grundriss der iranischen Philologie, vol. I, pt. 2, p. 7;K. Vullers (Lexicon persico-latinum, vol. I, p. 466) renders the term by idololatra and idolum.

or the [365] Siberian shaman but evidently refers to Indian Buddhists, for these šamans say 'Our religion is one of peace and quiet, and fighting and slaying is prohibited, as well as all kinds of shedding of blood.' (1) Finally the Indian word has been traced in the

1. Compare the quotation in H. Yule, Hobson-Jobson, P. 820.

newly discovered Indo-European language styled Tokharian in the form samāne; and

this induced A. Meillet to formulate the opinion that the Tokharian form (not a Prakrit form of Sanskrit çramana) would account for the Tungus word šaman. (2) With all

2. A. Meillet, 'Le Tokharien,' Indogermanisches Jahrbuch (Strasburg, 1914), vol. I, p. 19.

respect due to the scholarship of this eminent philologist it must be admitted, however, that there is a far cry from Tokharian to Tungusian, that there is no evidence for any contact of these two groups, and that the Tungus notion of a shaman is radically different from the conception of a Buddhist monk. If two words in geographically remote languages are physically alike or similar, but fundamentally diverse in meaning, it is safe to assume that the face resemblance is purely accidental.

Indeed this theory was brilliantly antagonized as early as 1842 by W. Schott, and H. Yule, (3) accepting his verdict, reached the conclusion, 'Whether the Tungus word is

3. Hobson-Jobson, p. 820

in any way connected with this or adopted from it [that is the Sanskrit-Pali term], is a doubtful question. 'Schott has devoted no less than three studies to this

problem (4) in which he endevored to dissociate saman from samana. His arguments

> 4. 'Über den Doppelsinn des Wortes Schamane und über den tungusischen Schamanen-Cultus am Hofe der Mandju-Kaiser,' Abhandlungen Berliner Akademie, 1842, pp. 1-8; 'Wohin gehört das Wort Schamane?' in his Altaische Studien, no. 3, ibid., 1867, pp. 138-141; and 'Das Wort Schamane,' in Erman's Archiv fur wissenschaftliche Kunde von Russland, vol. XXIII, 1865, pp. 207-210.

are briefly as follows: the Chinese strictly descriminate between Manchu saman (shaman) and Sanskrit çramana, and never confound a shaman and a Buddhist monk, the two having totally diverse functions; a direct or indirect connection of Tungusian tribes with India is unproved; Buddhist missionaries never advanced into regions inhabited by Tungus (5)[366]

> 5. As emphasized in my article 'Burkhan,' Journal American Oriental Society (1917), pp. 390-395, there is no trace of Buddhism in the religion of the Tungusian peoples on the Amur.

it would be strange if they should have borrowed the only word in their language for the designation of their national priests; the forms of shamanism are uniform in a vast

territory extending from Lappland to the Bering Sea and far beyond into America; Vasilyev's hypothesis that shamanism should be a caricature of ancient Buddhist sorcery and jugglery and have been brought into existence by such influences is a mere phantom; the outward resemblance of the words saman and samana is purely fortuitous. Schott's etymological explanations of the word from Samoyed are not convincing, but his remark that Tungusian sam possibly is anciently related to Turkish kam testifies to great foresight and ingenuity; and this thesis, as will be seen, can now really be proved. Also Ch. de Harlez (1) joined the ranks of the adversaries of the Indian hypothesis, reiterating in

1. La Religion nationale des Tartares orientaux (Bruxelles, 1887), p. 28.

the main Schott's arguments. In Russia, it had been severely criticized as far back as 1846 by Dordji Banzarov, a Buryat and an excellent Mongol scholar. (2) Nevertheless

2. His works were collected and edited by Potanin in 1891 under the title Cernaya v'ara ili samanstvo u Mongolov i drugiya stat'i ('The Black Faith or Shamanism among the Mongols and Other Articles'). Regarding the word shaman see p. 34.

in Russian dictionaries also the nightmare of the cramana is perpetuated. (3) As it

3. For instance, in Gor'aev, Sravnitelny etimologiceski slovar' russkago yazyka, p. 418.

happens, twilight reveries appeal more to the multitude than plain reason and continue to live even if abandoned by the thinking minority; it is not always the best and fittest that survives. The ghost of the Indian çramana still haunts the poor shaman in our standard dictionaries and cyclopaedias (see Webster, Nouveau Larousse, and Littre, Dictionnaire de la langue française; Schaff-Herzog Religious Encyclopedia, vol. X, p. 385; Funk and Wagnalls' Dictionary offers even a 'Persian-Hindustani shaman, pagan'!) (4) It is a relief, therefore, to read in the new Oxford Dictionary,

4. Even in the 7th edition of O. Pexchel's Völkerkunde (p. 274) the cramana still holds way.

The Persian shemen, idol, idol temple, sometimes cited as the source, is unconnected. Evidence seems to be wanting for the plausible suggestion that the Mongolian word is an adoption of Chinese sha men, an ordained member of a Buddhist fraternity.

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-12
116, 197, 756, 114

Eliminating 'plausible' and substituting 'Tungusian' for [367] 'Mongolian' this statement marks a progress in lexicographical literature. So there is hope that our great-grandchildren will perhaps be treated to a correct definition in the dictionaries of the following century."

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-14
116, 114, 171, 197, 756

"The Hungarian scholar J. Németh (1) has attacked the problem in the right spirit,

> 1. 'Über den Ursprung des Wortes Šaman und einige Bemerkungen zur türkischmongolischen Lautgeschichte,' Keleti Szemle, vol. XIV, 1913-14, pp. 240-249.

and ably solved it by means of a sane philological method. A schooled phonetician, he has successfully worked for several years on the phonetic history of the Turkish and Mongol languages and established very interesting correspondences of phonetic phenomena in these two linguistic families. In the study cited he advances the law that primeval Turkish initial k' (palatalized k) has developed into Tartar k, Čuva j, Yakut x (spirant surd as in German ach), Mongol ts, č, and Manchu-Tungusian s, ś, or š. He gives seven examples to this effect, the first of which is:

Turkish (Uigur and in the dialects of southern Siberia) kam or anciently q a m (shaman), in some dialects kŭär, dum (with such derivations as kamdi, to prophesy; kamla, to heal; kamna, to shamanize; etc.). Čuvaš jum, jumeś (shaman); im-jum (durative charms). Manchu saman, Golde sama, š'ama, Olča šam, Oročon šama, Tungus on the middle Amur saman, Tungus of Udsk saman and šaman, Kondogir and Wilui Tungus xaman.

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-2
116, 114, 171, 197, 756

Németh concludes that the origin of the much disputed word 'shaman' is thus definitely solved, and that it is an ancient property of the Turkish-Mongol languages. The phonetic alternation determined by him is perfectly correct and Manchu-Tungusian sam, s'am, or šam (2) is indeed the exact phonetic equivalent of Turkish kam. (3) Apart

2. This in fact is the stem of the word, not as formerly believed by some scholars, sa-, which was explained from Manchu sa- (to know). Németh justly rejects this derivation. By the way, 'Schott,' the father of this etymology, disavowed it himself in his second treatise on the word shaman, quoted above. D. Banzarov (l.c., p. 35) justly recognized sam as the stem.

3. It was hitherto believed that the word for shaman was different in all languages of Siberia, while there is a fairly uniform designation for the female shaman (udagān, utygan, ubakxan, etc.). Hence V. F. Trosčanski (Evolutsiya černoi v'ary [šamanstva] u Yakutov - 'Evolution of the Black Faith among the Yakut,' Kazan, 1902, p. 118) was prompted to the theory that the Siberian tribes originally had only female shamans, and after the time of their separation instituted also male shamans. This reconstruction is contestable on many grounds; for instance, we have male and

> female shamans . [368] co-existent in the most ancient days of China. The supposition on which the conclusion is based is now no longer valid: the word for the male shaman is in fact identical throughout from the Turkish to the Tungusian and Gilyak tribes.

from the Tungusian series noted by Németh [368] after Grube's Goldisches Wörterverziechnis, several other forms of the word have become known. De la Brunière (1)

> 1. In H. E. M. James, The Long White Mountain or a Journey in Manchuria (London, 1888), pp. 433, 434

recorded it in 1846 among the Golde as tsama or tsamo. I heard only s'ama from the Golde, in the same manner as Shimkevič, (2) but in view of the existence of several

> 2. Materialy dl'a izučeniya šamanstva u Goldov. p. 8.

Golde dialects such a form many be regarded as possible. A Rudnev (3) noted from a

> 3. Novyia dannyia po živoi mandžurskoi r'äči i šamanstru (New Data

on the Live Manchu Speech and Shamanism), p. 9.

Manchu, who was still conversant with his mother tongue, the following: sáma, sáman, sáma (nasalized a), and sāmǎn.

The Gilyak style the shaman čam (tšam). This certainly is a loan-word received from Tungusian, (4) but it is not necessary to assume that the change of the initial š

> 4. There is no doubt that the shamanism of the Gilyak is derived from and a weak echo of that of the neighboring Amur tribes. There are but a few shamans among the Gilyak, and shamanizing is rarely practised by them (see for the present L. von Schrenck, Reisen und Forschungen im Amur-Lande, vol. III, p. 752).

or s into the palatal explosive surd is due to the Gilyak; for this alternation is common within Tungusian, so that a Tungusian čam borrowed by the Gilyak may be presupposed for some Tungusian dialect spoken in the neighborhood of the Gilyak. Compare the following examples: Manchu nesuken and nečin (equal)--Jučen nušin; Manchu ničuxe (pearl)--Old Jučen inšuko or inšuxa, modern Jučen ninčuxe; or vice versâ, Jučen ančun (gold)--Manchu aisin."

10: Laufer--368-370 E-3 (no date) 1917 Northeast Asia-1-5
116, 114, 177, 197, 756

"It has been said that the word šaman is found only in the eastern part of Siberia and in Manchuria. There is, however, one well-authenticated instance on record to the effect that it was known also in northwestern Siberia. In the earliest account that we have of the Irtysh-Ostyak, written in 1715 by G. Novitski, their priests were styled šamančik.(5)

5. B. Munkácsi, Keleti Szemle, vol. IV, 1903, p. 88.

In view of the early date of this record we cannot well assume that this is a loan-word recieved through intercourse with the Russians. Whether the term still exists I [369] am unable to say from the sources at my disposal. S. Patkanow (1) gives for the

1. Die Irtysch-Ostjaken, pt. I, p. 120.

shamans of the Ostyak only the name tonx-ort. (2)

2. Consulting Castrén's vocabulary in his Versuch einer ostjakischen Sprachlehre I find that tonx means idol, and ort, workman, slave. If accordingly tonx-ort should mean servant of the idols, the term might hardly be claimed as a primeval designation of the shaman.

The Turkish word kam is of ancient date(3)It is attested (and this is its earliest occurrence) in the Chinese Annals of the T'ang dynasty (618-906), where it said with respect to the Kirgiz(4) that they designate their sorcerers or shamans (Chinese wu) with the word kam. The last character now reads kan, but was anciently possessed of a final labial nasal, which is still preserved in the dialects of southern China. Chinese wu is a very ancient term for the native medecine-men.(5) The word kam, further, is found in Uigur(6)

3. The Russians have derived from it the verb kamlat' (to shamanize, to conjure, to spell, to prophesy) and the noun kamlanie (the act of shamanizing).

4. Regarding this name and its ancient Chinese transcriptions see Pelliot and Laufer, T'oung Pao, 1916, p. 295.

5. Regarding their activity see Chinese Clay Figures, pp. 109-200.

6. In the Kudatku Bilik, written in A. D. 1068 (H. Vámbéry, Uigurische Sprachmonumente, p. 221).

and in the Codex cumanicus of 1303. (7) It is also used by the Persian historian Rashid-

7. W. Radloff, Aus Sibirien, vol. II, p. 67. Nemeth overlooked these data but it is important to note the wide distribution of the word in time and space.

eddin (1247-1318) in 1302, with reference to the shamans of the Mongols. (8) The existence

8. F. Von Erdmann, Temudschin, p. 553, E. Blochet, Introduction à l'histoire des Mongols de Rashid Ed-Din, p. 165.

of the Tungusian word šaman can now be traced to the first part of the twelth century, for Pelliot (9) has found it as a Jučen word in a Chinese gloss, where it is transcribed in the

9. Journal asiatique, 1913, mars-avril, pp. 466-469.

form šan-man and explained as a sorceress. The Chinese transliteration would presuppose Jučen form šamman. Indeed we still meet forms with double m in the dialect of the Wilui Tungus, --samman and xamman. (10) The latter with initial spirant represents the

10. Recorded by R. Maack, Wil'uski okrug (The District of Wilui), pt. 3, p. 116.

missing link between Turkish kam (in the language of the Soyot or Urangkhai xam) and the Tungusian forms with initial sibilant. The [370] alternation of k and x is well known, (1) likewise x, h, and s, alternate in Tungusian dialects. (2) For this reason

1. W. Radloff, Phonetik der nördlichen Türksprachen, p. 108.

2. A. Schiefner, Melanges asiatiques, vol VII, 1877, pp. 338-339.

it is justifiable to correlate the forms kam and xam with Yakut xammā, xamsā (to move, to be agitated; xām, to step, to stride), (3) and to interpret the significance of the word

3. O. Böhthingk, Jakutisches Wörterbuch, P. 79.

from the shaman's peculiar behavior, his solemn and pompous pacing, his ecstacy, his convulsions, his frantic leaps and dancing. (4)

4. This explanation was first given by V. F. Troščanski, Evolutsiya černoi v'äry (šamanstva) u Yakutov (Evolution of the Black Faith among the Yakut),

(Kazan, 1902), p. 117. D. Banzarov (Černaya v'ära, p. 35) held a similar view, but arrived at it through a different process by connecting the word with Manchu samarambi and Mongol samoromoi, samagu; aside from the fact, however, that these words do not have the meaning required, or forced into them by Banzarov, they can by no means be reduced to the stem sam. --Kam is not a Yakut word for the shaman, as wrongly stated by A. van Gennep ("De l'emploi du mot "chamanisme,"" Revue de l'histoire des religions, vol. 47, 1903, p. 52, the Yakut term is oyun."

10: Laufer--370-371 -E-3 (no date) 1917 Northeast Asia-1-3
116, 114, 197, 756

"Németh gives no form of the word for Mongol, and explains the absence of a corresponding word in this language through a characteristic trait of the Mongols to whom the use of many words was tabooed; owing to such a taboo, the word šaman should have been lost. This is an arbitrary, far-fetched, and unnecessary theory. First of all, the word šaman does occur in Mongol, at least it is listed as a Mongol word in Kovalevski's and Golstunski's Mongol dictionaries. Whether it is frequent is another question. I never found it in a Mongol text. This is accounted for by the fact that the common term for a shaman in Mongol is bügä, bögä, Buryat buge and bö, corresponding to Turkish bögü, Djagatai bügi (sorcery), bügiči (sorcerer), Osmanli büi (sorcery).(5)

5. According to I. J. Schmidt (Geschichte der Ost-Mongolen, St. Petersburg, 1826, p. 416), kami should be the Mongol name of the shamans. It would hardly be necessary to point out this blunder, had it not been immortalized in Yule's Hobson-Jobson (p. 820). There is no Mongol word kami with such a meaning. Schmidt found it in the Mongol chronicle of Sanang Setsen as the proper name of a Tibetan Bon-po, and this name reads correctly Khami or Xami. Schmidt's interpretation, evidently suggested by Turkish kam, is baseless and purely imaginary.

This series seems to bear some kind of relation to Chinese bu, wu (shaman), buk, puk (to divine), and Tibetan aba (pronounced ba, sorcerer); (6) but how [371] this

6. Compare my concordance in Toung Pao, 1916, p. 68.

relation is to be explained is beyond our present knowledge. The type kam--sam is possibly preserved in Mongol in a somewhat disguised form. According to the phonetic law established by Németh, the Mongol initial corresponding to Turkish k and Tungusian s should be ts, č. Thus we get at Mongol tsam, čam, that means a dance, and at present refers in particular to the religious pantomimic dance-performances of the Lamas in which, as is well known, many ancient shamanistic notions and rites of pre-Buddhistic times have survived. The same word in the same sense is encountered in Tibetan as č'am or ts'am (written ač'am), and it would be justifiable to regard the Mongol as a loan-word adopted from Tibetan; (1) but considering the fact that the

1. In a forthcoming study on Loan-Words in Tibetan, where an almost complete list of Mongol loan-words occurring in Tibetan is given, the writer has set forth the difficulties in recognizing the mutual loan-words

> of the two languages. Mongol and Tibetan have a certain number of words in common, partially due to a prehistoric contact, partially due to allively intellectual interchange in historical periods; and it is not always possible to decide in each and every case which side is the recipient, and which the borrower.

word is isolated ... (that is, not found in any other Indo-Chinese language), it is likewise permissible to stamp the Tibetan as a Mongol loan. For the rest, I give with all reserve this theory of a possible connection of Mongol tsam with Turkish-Tungusian kam--sam (religious dancer).

At any rate it is obvious that the word šaman has now legitimately secured an absolute and irrevocable decree of divorce from its pseudo-mate çramana, samana, or ša-men, and that this mismated couple cannot live together any longer. Tungusian saman, šaman, xaman, etc., Mongol šaman, Turkish kam and xam, are close and inseparable allies grown and nourished on the soil of northern Asia, --live witnesses for the great antiquity of the shamanistic form of religion."

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

701 end of July, Blyukher still appeared in public and was still in command in the Soviet Far East, but two rather strange things had happened. First, a carefully prepared party conference of the OKDVA, which was scheduled for the beginning of June, was cancelled at the last minute; and secondly, the OKDVA itself was suddenly renamed 'Far Eastern Front' ('Dalnevostochnii Krasnoznamyonnii Front'). The change occurred between July 5th and 6th, and must have greatly puzzled the Soviet public, which was as familiar with the initials 'OKDVA' as with U.S.S.R., N.K.V.D. and R.S.F.S.R.

The actual disappearance of Blyukher coincides with some major border incidents which the Japanese provoked on Lake Khasan during the last days of July and the beginning of August. The Soviet armed forces remained in control of the situation and killed over 400 Japanese. On the whole the incident on Lake Khasan was rather welcome to the Kremlin, for it gave the government the opportunity to prove that the efficiency of the army was not impaired by the purge. Moreover, the
● [208] 'defeat of the samurais', as official propaganda styled the historic episode on the Manchurian border, supplied the pretext for a big campaign to strengthen the morale of the Soviet rear. All over the Soviet Union meetings were held in factories, collective farms and offices protesting against the Japanese aggression and sending greetings to the Soviet armed forces who were watching over the security of the Far Eastern borders. None of the resolutions adopted at these meetings contained the slightest reference to the once so popular Marshal Blyukher. The press gave all the credit for the speedy liquidation of the Khasan Lake incident to rank and file soldiers and junior officers, as if no general had been connected with the operation. Only considerably later was the new commander in the Far East mentioned – Grigory Mikhailovich Shtern.[12]

What happened to Blyukher and why it happened was never officially stated, except, perhaps, for some general cryptic remarks made by the Head of the Political Administration of the Red Army, Mekhlis, and by Blyukher's successor. The former told the party conference of the 'First Separate Army',* in September 1938, that the plotters among the party members of the Far Eastern Army had been 'smashed and destroyed'. Shtern was a little more explicit when, in addressing the Eighteenth Party Congress, he referred to 'traitors, spies and monsters' who had infiltrated into responsible positions in the Far Eastern armies.

The disgrace of the Marshal was not a local event of the Soviet Far East, but one of national importance for Soviet Russia. Blyukher was a potential Russian Bonaparte, more dangerous to Stalin than even

* The 'First Separate Army' ('Pervaya Otdelnaya Krasnoznamyonnaya Armiya') was a new name for the purged OKDVA, the term 'Far Eastern Front' being used for a few weeks only.

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even where the N.K.V.D.-M.V.D. has no direct economic power it is the decisive political force, above all, in border areas like the Maritime Territory of the Soviet Far East.

There are indications, however, that the police ministry has encountered certain difficulties among the Far Eastern Russians during the war and post-war period. Conditions were certainly favourable to a re-emergence of that Far Eastern regionalism which Soviet power has tried so hard to eliminate. The people of Vladivostok, in particular, must have felt once more that the natural destiny of their city was that of a window into the world. They saw the many American lend-lease shipments arriving in their harbour and were bound to draw certain conclusions about the desirability of international trade and Soviet-American co-operation. More than people in other parts of the Soviet Union must the Russian inhabitants of the Pacific coastal areas have resented the policy of rigid isolationism which the Soviet Government has pursued particularly since 1947.

This frame of mind of the 'Far Easterners' makes it understandable that the very existence of an American consulate in Vladivostok was a matter of concern to the Soviet Government. The building of the consulate was put under constant supervision and for long periods it was floodlit at night. In 1948, the Soviet Government used a flimsy pretext to demand from the United States that they should withdraw their consular personnel from the Pacific port. The measure had little importance for the Americans as the activities of the four American consular officials were extremely limited, but it had a certain symbolic significance. The closing down of the consulate was a way of telling the people of Vladivostok that their hopes of their city becoming a link between Russia and the West were once more doomed. Some years later the charge was made that the consulate had been the centre of a spy-ring. This accusation was first put forward in the short story *In a Seaside Town* ('V Primorskom Gorode') which the popular Soviet illustrated *Ogonyok* published in 1950. In the daily press the 'plot' was mentioned for the first time on February 8th, 1953, when *Izvestiya* wrote : 'In 1947, the organs of the state security service liquidated a spy-nest organized by the assistant naval attaché at the American consulate general of Vladivostok, Richard'. *Izvestiya* produced no further details nor any evidence to support its disclosure which it simply quoted from a book *The Secret Weapon of the Doomed*. This latter work had come out under the auspices of the Komsomol organization. The absurdity of the Vladivostok spy story does not preclude the possibility that many Russian Far Easterners in the late 'forties' and early 'fifties' were persecuted for pro-Western sentiments just as others had been victimized for alleged pro-Japanese leanings in the late 'thirties.'

The particular sensitiveness which the Soviet authorities have shown

THE RUSSIANS OF THE SOVIET FAR EAST

The particular sensitiveness which the Soviet authorities have shown
208 with regard to the Far Eastern Russians since the Second World War can also be illustrated by another fact. Soviet jamming of Western broadcasts started in the Far Eastern territories of the Soviet Union several months before it came into operation in other parts of Russia.

II. THE PROBLEM OF COLONIZATION

THE HISTORICAL BACKGROUND

167 The great decisive problem which had confronted both Czarist and Russian authorities in the Far East was that of the colonization of the territory. Under the Czarist régime Russian colonization could be roughly subdivided into three periods. The first ran from the annexation of the Amur and Pacific coastal regions in 1858–60 to 1883, the second from 1883 to about 1900, and the third from 1900 until the First World War.

Until 1883, the only way of reaching the Far East from European Russia was to cross the whole of Siberia on horseback, and this meant two to four years' travel. The formidable journey, under very primitive conditions, resulted in complete physical exhaustion which, in a number of cases, compelled the prospective Amur colonists to abandon their original aim and settle down somewhere in Siberia. Those who eventually reached the end of their journey were appallingly weak from starvation, hardship, and the diseases which they had contracted during the journey. To make things worse there was no proper settlers' organization to help them when they arrived. It is not surprising, therefore, that in such circumstances the colonization of the Russian Far East made little progress, and the yearly average number of newcomers in these parts did not exceed 1,000.

The year 1883 saw the opening of the sea route for the use of prospective settlers. Despite the fact that the sea route reduced the journey to a few weeks only, it never became really popular with Russian and Ukrainian colonists, since travelling by sea was alien to their mentality. Nevertheless, several thousands of would-be settlers let themselves be persuaded to board ships in Odessa for Vladivostok, where they received a much better welcome than those who had arrived earlier by the land route; they were fed and housed, given medical attention and provided with farming equipment.

It was only after 1900, with the opening of direct rail communication between Russia and the Far East, that Russian colonization did enter a more active phase. In the initial stage the Trans-Siberian railway line cut the duration of the journey to approximately thirty days. While the first Russian colonists in the Far East had come chiefly from the overpopulated gubernii (provinces) of Kiev, Chernigov and Poltava, the

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demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[25] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[26] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[27] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

A decree of January 9th, 1950, giving a new list of constituencies for the Supreme Soviet elections established four new constituencies in the Far East. The constituency of Khabarovsk was divided into a town and a country constituency, another new constituency was formed around the Okhotsk Sea and two more constituencies were created on Sakhalin. The total population of the Soviet Far East would accordingly have been, in 1950, in the neighbourhood of 4,200,000. It is, however, unlikely that this figure was really reached. The population of each of the three Sakhalin constituencies, in particular, may be considerably below the 300,000 mark.

III. THE SOVIET FAR EASTERN MYSTIQUE

The Soviet régime worked for the strengthening of the Russian Far East not only by mobilizing manpower for its colonization, but also by building up a Far Eastern 'mystique', a nationalistic ideology which flattered national pride to the utmost degree. After the end of the Second World War the Soviet Government, with the help of a large army of historians, writers and poets, promoted a cult of Russian heroes of the Pacific. The object of the new propaganda campaign was to show that Russians had played an outstanding part in the discovery of the Pacific and that, by their past records, they were entitled to much more influence in decisions concerning Pacific affairs than the 'imperialist powers' were ready to grant them. The campaign was also intended to prove that Czarist Russia had failed to grasp the opportunities offered to her in the North-West Pacific and that the Soviet Union defended energetically those national Russian interests in the Far East which the old régime had neglected.

RUSSIAN COLUMBUSES

To proceed in a strict chronological order the first 'Russian hero of the Pacific' to be mentioned is Semen Dezhnev. Soviet propaganda popularized him particularly in connection with the tercentenary in 1948 of the discovery of the Behring Strait, which separates Asia from America. The Danish explorer, Vitus Behring, after whom the strait is called, may only have rediscovered it one hundred years after Dezhnev had sailed around the 'nose of Asia', the north-eastern tip of Siberia. As late as the nineteenth century, some outstanding Russian scholars still doubted whether Dezhnev could really be credited with this daring feat. Soviet writers, however, are quite positive about Dezhnev's pioneer role. In 1945 the Chief Administration of the Northern Sea Route issued a popular book on Dezhnev, which waived aside all doubts as to Dezhnev's voyage, and described Dezhnev himself as 'a glorious representative of the all-enduring Russian people'.[88]

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186 ● 208 159 The next 'Soviet hero' operated on the other side of the Behring Strait, in what, until 1867, was called 'Russian America'. He was the Russian merchant, Grigory Ivanovich Shelikhov, who, in 1784, founded the first permanent Russian settlements in Alaska. Shelikhov's contemporary, the great poet Derzhavin, called him the 'Russian Columbus'. This description, 'Russian Columbus', plays a great part in Soviet propaganda. Because of a feeling of inferiority, *vis-à-vis* the Western World, the Soviet Union has claimed a large number of inventions and geographical discoveries for the Russians, including the discovery of America. Columbus discovered only the American East coast. North-West America was a Russian discovery for which the credit goes in the first place to Shelikhov. It is obvious that the Russians of the Soviet Far East and of Eastern Siberia are most easily attracted by the idea of a 'Russian Columbus'. The Mayor of Irkutsk and the head of the Irkutsk provincial administration have been in the forefront of those who have advocated a systematic publicity campaign for extolling Shelikhov's memory. These two, together with seven other distinguished Soviet citizens, demanded in a letter to the Moscow *Literary Gazette* in October 1950, that Shelikhov should be honoured lavishly on the 155th anniversary of his birthday. In the centre of Irkutsk a Shelikhov monument ought to be erected, they recommended. The Ministry for Cinematography was to produce a film on the 'Russian Columbus', the All-Union Society for the Dissemination of Scientific and Political Knowledge to organize lectures throughout the country about his life and deeds, and the State Publishing House for Geographical Literature was to publish his biography.[89] Since then many of these demands have probably been carried out.

Shelikhov's epithet, 'Russian Columbus', has frequently been challenged. Russian historians of the nineteenth and twentieth centuries considered Shelikhov a braggart who greatly exaggerated his Alaskan exploits, and in particular, the number of Alaskan natives converted to Christianity, so as to get larger subsidies for his trading firm. This poor view of Shelikhov was taken by the pre-revolutionary *Russian Encyclopedia*, and the first edition of the *Soviet Encyclopedia* has not corrected it. According to the latter, Shelikhov was just a 'representative of merchant capitalism' not worthy of major attention. Nevertheless, Shelikhov was a man of vision. He conceived the bold plan of a Russian Empire in the North-West Pacific which would have its granary in California and its naval base in the Hawaiian Islands. Shelikhov also wanted to encourage trade relations with China, Japan and India, and he dreamt of voyages to the Philippines, and even to the North Pole.

Shelikhov's successor, Aleksandr Andreevich Baranov, who started a more systematic exploitation of Russian America by founding the 'Russian-American Company', has also his place in the Soviet pantheon.

l: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

Baranov is venerated as a 'self-sacrificing patriot', and a manual for Soviet teachers gives the following appraisal of him: 'Baranov, this outstanding personality, during twenty-eight years kept the administration of Russian America firmly in his hands. Thanks to his personal courage and keen intelligence he opened up and explored its vast spaces. In a hard struggle with privations, the hostility of militant tribes and the mean intrigues of foreign merchants, he established Russian rule over the huge territories of Alaska and Northern California'.[20] Baranov has also become the hero of an historical novel. The author of the novel, Ivan Kratt, described Baranov and his associates as modest and just people, without prejudice against natives, and loved by everybody with the exception of a few villains.[21]

'RUSSIAN AMERICA'

Among Baranov's collaborators there is one whom the Soviet régime has particularly singled out for posthumous glorification, Ivan Kuskov. Until the beginning of 1948, Kuskov's name was unknown even to many well-educated Russians. The Soviet Government rescued it from oblivion by a propaganda campaign on a large scale, which started in Torma, a small town in the Northern Russian Province of Vologda. The town council of Torma met and decided to erect a monument to Kuskov. The importance of this gesture might have escaped the peoples of the Soviet Union had not the Russian Press explained and advertised it all over the country. Kuskov appeared as the man who, acting under Baranov's general orders, had extended Russian America from Alaska to California. It was he, who, in 1812, had hoisted the Russian flag at the entrance of San Francisco Bay and founded 'Fort Ross', the southernmost Russian-occupied point on the American continent.

Not only the biographies of people like Shelikhov, Baranov and Kuskov have been reinterpreted, but the entire history of 'Russian America'. Alaska is not a conquest of Russian Czarism and imperialism, but belongs to 'democratic Russia', to 'people's Russia'. 'The settlement of Alaska by Russians', said the *Literary Gazette*, 'bore a clearly expressed labouring and democratic character dissimilar to the trade-plundering colonization by the Anglo-Saxons, who recruited their agents from among tramps, adventurists and criminals'.[22] The same point is elaborated in greater detail in what is purported to be a popular scientific booklet on the history, geography and economic conditions of Alaska. There, it is said that the colonization of Alaska was progressive because most of the Russian settlers were peasants, eager to shake off the arbitrary rule of the estate owners. Many people went to Alaska because they found the oppressive atmosphere of the Czarist régime unbearable. Others were sent there because of their political con-

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

victions. Not only was the colonization of Alaska itself 'progressive' and 'democratic', the management of the Russian-American Company also was. One of its chief executives, K. F. Ryleev, was executed for his part in the December rising of 1825, and there were other prominent 'Decembrists' among the officials of the Company.[33]

Soviet propaganda has tried to show that Baranov and Kuskov conducted a progressive policy towards the natives of North America, totally different from the Anglo-Saxon or Spanish policy towards Red Indians. This is untrue and has been contradicted by Russian sources themselves. A Russian naval officer, who visited Alaska at the time of Russian occupation, has given the following eloquent description of Baranov's policy towards Eskimos and Aleuts: 'Woe to those who resisted him. He destroyed them mercilessly, deported them to uninhabited islands, deprived them of all means of contact with each other, and mixed people of various tribes so that there could be no malicious conspiracy against the Russians. He was feared by the savages, they considered him as the scourge of heaven. Since they had no chance to revolt they were forced to become his slaves and to forget all about their previous freedom'.[34] As a matter of fact, the Aleuts revolted against Russian rule, as the Russian historian, Shashkov, pointed out in his book on the Russian-American Company, and these revolts led to the extermination of a large part of 'this restless people'. How many Aleuts have perished altogether in the years of Russian rule it is impossible to say. According to the official data of the Russian-American Company there were 8,405 Aleuts in Alaska in 1824, but only 4,363 were recorded in 1859. It would be true to say, therefore, that Russian colonization of Alaska was, from the humanitarian point of view, by no means better than, say, British colonization of Australia in its initial stage.

Nevertheless, Russian policy towards the native peoples of Russian America did have its brighter aspects. Those responsible for it, however, were not Shelikhov, Baranov and the other newly discovered national heroes of Soviet Russia, but people whom the Soviet régime is not very keen on publicizing, the Christian missionaries. It was they who founded the first schools in Alaska, educated a fair number of natives, and even translated religious books into the Aleut language. The most important Russian churchman working in Alaska was Ivan Veniaminov (1797–1879). He was the author of a grammar of the Aleutian language which was published in St. Petersburg in 1846. The 'apostle of Alaska', as the Russian historian, Zernov, calls him, became later, under the name of Innokentii, Metropolitan of Moscow.[35]

The scope of these Russian church activities was, however, very small and one cannot say that the end of Russian rule in Alaska, in 1867, meant in any way a major loss to the native peoples; but of course it was, historically speaking, a great loss for the Russian State. Soviet Russia was

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

more conscious of this loss than Czarist Russia had ever been. In Soviet political literature published after the Second World War the abandonment of the Russian outposts in California in the 'forties' and the sale of Alaska to the United States appear not only as regrettable blunders, but almost as acts of treason on the parts of the Czarist Government. 175

THE RUSSIAN PACIFIC

Russian traditions in the Pacific, as presented by Soviet propaganda, are by no means confined to Russian rule over Alaska and 'Fort Ross'. Quite a number of Russian naval expeditions took place throughout the nineteenth century in various parts of the Pacific Ocean. The public, and particularly Soviet youth, has been acquainted with them since 1945 in various ways. Stories about these expeditions have been written anew, in the form of historical novels or of straightforward descriptions, with the obvious object of stimulating national pride. 186 208

From this patriotic Soviet Russian literature centring on the Pacific one can learn a great deal – for instance, that the Russians discovered as many as 400 small Pacific islands, more particularly those belonging to the Paumotu Archipelago in the South-East Pacific, and some of the Marshall Islands. All these islands had been named after Russian generals in the war against Napoleon, and other famous Russian historical figures. Some of the Russian names still persist. Thus the, Lisiansky Island, a possession of the U.S.A., east of Midway Island, bears the name of a well-known Russian seafarer, and east of Samoa there still exists a Suvorov Island belonging to Britain. Also, the big island of New Guinea has important Russian associations. Russians are not credited with its discovery, it is true, but it was a Russian scholar to whom was due the first detailed description of the Papuan people. The Russian explorer, Miklukho-Maklay (1846–88), spent some time with the Papuans. The result of his observations was included in his diaries, which were not published until the Soviet régime came to power. As the Russian geographer, L. S. Berg, puts it, Miklukho-Maklay died before he succeeded in writing his fundamental scholarly works, but, even so, he is highly honoured in the Soviet Union. After all, he was the first Russian to demand that Russia should have a colony in the Pacific.[36] The Institute of Ethnography of the Academy of Sciences has been called after him and a play 'White Friend' has been produced in which he is the central figure. He appears there as the 'champion of black and coloured peoples enslaved by the colonizers of the West'.[37] 186 208 103

'NEVELSKOY'S IMMORTAL FEAT'

For Soviet patriotic ideology one historic personality is more important 186 208 159

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186 159 208 than all those mentioned so far, Admiral Gennady Ivanovich Nevelskoy (1813–76). The entire modern Russian Far Eastern policy goes back to his geographical discoveries. They resulted in the Russian annexation of the entire Lower Amur region up to the Ussuri confluence, as well as in the Russian seizure of Sakhalin. Until Nevelskoy's expedition, the Amur was not recognized as a 'useful' river and a channel of Russian expansion, nor was it known that Sakhalin was an island and not a peninsula. Nevelskoy, who had sailed from Kronstadt across the Atlantic and the Pacific, on August 13th, 1850, hoisted the Russian flag at the point of the Amur estuary which later became known as the town Nikolayevsk Amursky. Hence, the Amur region became the only part of Russia which was annexed by a naval expedition. Nevelskoy's 'immortal feat' enabled the Russian Empire to concentrate in its Far Eastern policy on areas close to the Chinese border, instead of using up its efforts in the distant Kamchatka or even Alaska. On the one-hundredth anniversary of Nevelskoy's appearance in the Amur estuary, the Soviet régime expressed its appreciation of the courageous seafarer in no unmistakable terms. A monument was erected in his honour in the town of Nikolayevsk and a number of popular books were published on the occasion. The Publishing House of the Central Committee of the Communist Youth League, 'Molodaya Gvardiya', brought out an historical novel largely dealing with Nevelskoy, and the State Publishing House for Çultural and Educational Literature produced a biography of the admiral.[38]

PORT ARTHUR

The gallery of heroes of the Russian Far East would be incomplete without mentioning the defenders of the Russian fortress Port Arthur during the Russo-Japanese War. When Port Arthur fell, Lenin wrote that the Russian proletariat had every reason to rejoice at 'progressive and advanced Asia inflicting an irreparable blow on backward and reactionary Europe'. When looking back on the defence and doom of Port Arthur, Stalin's Russia, however, takes no guidance from Lenin, but from the son of a Czarist officer, Stepanov, who, in 1905, belonged to the garrison of the besieged fortress. This man published, in 1944, an historical novel on Port Arthur which earned highest praise in the most authoritative Soviet circles. The book, which also served as the basis of a play, was, in the first place, a tribute to two great Russian patriots, Admiral Makarov, Commander of the Russian Pacific fleet and General Kondratenko, the main embodiment of the spirit of resistance in Port Arthur. Stepanov did not consider that the defence of Russia's naval base in the Pacific was merely an imperialistic affair. For him there existed the most intimate link between Port Arthur and the entire Russian people. This he expressed by letting General Kondratenko

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make the following appeal to his soldiers: 'Behind us has been left but a narrow strip of Russian land with the town of Port Arthur. *This is our Russian town*: for its construction we have spent millions of our national income and invested a great amount of work. You yourselves have worked to build up the fortifications and batteries. And besides, in Port Arthur is our Fleet. We have to defend stubbornly our positions. The whole fatherland is following the course of the war and the defence of Port Arthur with breathless attention. Let us give all our forces, and if necessary, our lives in order to uphold in dignity the glory of the Russian arms in the Far East'. The book from which these lines are quoted was an ideological preparation for the re-establishment, in 1945, of a Russian naval base in Port Arthur, 'the town of Russian glory', as it is usually referred to.

SERGEY LAZO

The Soviet régime itself has not been able to make any substantial addition to the impressive gallery of heroes of the Russian Far East from Dezhnev to Admiral Makarov. Such 'heroes' as there emerged under Soviet rule, Marshal Blyukher in particular, were liquidated by the Cheka-G.P.U.-N.K.V.D. There is only one important exception to this rule the guerilla leader of the Civil War in the Far East – Sergey Lazo. Lazo was an officer of the Czarist army who went over to the revolutionary camp and joined the Bolshevik Party in the middle of 1918. He fought courageously against the White Guards and the Japanese in the Pacific coastal areas. In 1920 the latter burnt him alive in Vladivostok when he was only twenty-eight years old.

The way in which Lazo died predestined him to become not only a hero of the Soviet Far East, but also a symbol of Russian resistance to Japanese militarism and imperialism. Whenever the name of Lazo was mentioned – in newspaper articles and history books, in songs and in plays – it was meant as a challenge to Japan. But as history in the Soviet Union is always rewritten and reinterpreted in accordance with the propaganda interests of the moment, the personality of Lazo has undergone a revaluation. After the Second World War he became an anti-American figure as well as being an anti-Japanese one. According to an up-to-date version of Lazo's biography, the responsibility for his death lay jointly with the Japanese and the Americans. He was killed 'with the knowledge and agreement' of the American interventionists.[39] A book which prominently featured Lazo's part in the political and military events that took place in the Russian Far East in 1918, N. Kolbin's *Partisans* (*Partizany*), was rewritten with the express purpose of denouncing American intervention. The first edition of the book, which the Far Eastern state publishing house 'Dalgiz' brought out in

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1948, had only been anti-Japanese. In response to criticism in the official press the author produced, in 1951, a second edition of the same book into which a number of anti-American passages had been inserted.[40]

The interpretation of the personality of Lazo underwent a change in another direction also. Originally, Lazo appeared in Soviet propaganda as an international communist fighting for the victory of the World Revolution in the Far East. As time went on this international aspect was pushed into the background, and Lazo was transformed into a patriotic Russian, although, being a Moldavian of Swiss extraction, he had not a drop of Russian blood in his veins.[41] The favourite quotation which Soviet propagandists of the later period picked out of Lazo's statements reflects indeed a most patriotic frame of mind: 'We shall fight with our lives for the homeland against foreign invaders. For this Russian land on which I am standing now we shall die and shall not give it up to anyone'.[42] It must be admitted that the Russian patriot, Lazo, appeals much more than the communist guerilla leader. A man like Lazo would have become a national hero anywhere in the world, for a person who is killed by foreign invaders under dramatic circumstances always occupies an honourable place in the history of his nation.

These few examples may suffice to characterize the new Pacific 'mystique' which the Soviet régime has created. The whole Russian people is to be indoctrinated with the new Pacific ideology, but in the first place, this ideology is intended as a moral equipment for the Russian settlers on the Pacific coast. They are to be made more sure of themselves, and more ready to overcome difficulties by instilling into them the proud feeling that they are the successors of Dezhnev and Shelikhov, of Kuskov and Nevelskoy, and also, of course, of Sergey Lazo.

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the Far Eastern aborigines are sent to the Pedagogical Institute of Khabarovsk, where there is a department for the Far Northern nationalities, and a few are even admitted to the Herzen Pedagogical Institute in Leningrad. Courses at the Far Northern Department of that Institute last three years, and the curriculum includes 'Foundations of Marxism-Leninism; the great works of Stalin on questions of linguistics; the history of Russian pre-revolutionary and Soviet literature; folklore, and many other subjects'.[21] In addition every student has lessons in methods of teaching, in the grammar of his own national language, and in the history and ethnography of the peoples of the North.

Native students are also instilled with a feeling of hatred against the non-communist world. The results of this indoctrination can be gauged from the answers which a Yakut student gave, according to *Pravda*, at his final examinations at the Leningrad Pedagogical Institute. 'The Yakut student, E. Sysosyatin, talked at the examination of the situation of the Eskimos, Aleutians and Red Indians in America. He mentioned many facts which unmasked the American imperialists, and their criminal policy directed towards the total extermination of these peoples. To the horrors of misery, starvation, inhumane privations and persecutions to which these nationalities are subject in America, even greater atrocities have been added during the past few years. As has become known, the American imperialists, preparing bacteriological warfare, tried out the effects of the deadly microbes on the Eskimos. As a result of these cannibalistic experiments many Eskimos in America died of bubonic plague.'[22]

Soviet dictatorship indoctrinates all citizens of the U.S.S.R., whether Russians or Uzbeks, Ukrainians or Georgians, Latvians or Chukchi. It gives to all of them a completely distorted picture of the nations outside the communist sphere. This campaign of hatred and distortions, while morally wrong in every single case, is particularly contemptible if directed towards the youth of primitive peoples. By trying to transform young native intellectuals into agitators of the 'cold war', the Soviet régime destroys to a considerable extent the good which it is doing by the spread of culture and knowledge.

COMMUNISTS AND SHAMANS

The young natives trained in Nikolayevsk-on-Amur, Khabarovsk and Leningrad are to help the Russian administrators in the fight against 'local nationalism' in all tribal areas of the Soviet Far East. Naturally, in the territories of the small Far Eastern peoples the Soviet régime does not fight 'local nationalism' in the same way as it does in areas where there are more developed nationalities. There are no parties or political groups which the communists have to suppress; there is no feudal-

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Christian faith, acquired Christian ikons, but did not want to part with their Shamanist idols. The same can be observed among other Far Eastern and Far Northern aborigines. Many Christian converts wear crosses around their necks, but, at the same time, have idols made of walrus bones and reindeer skin on their belts. Naturally the communists have thrown ridicule on this pagan-Christian dualism, which they have described as 'Shamanism-Orthodoxy', but it is an unavoidable transitory stage in the religious development of any primitive people. Certain sections of the northern tribes of Soviet Russia had been sufficiently Christianized at the time of the establishment of Soviet power to resent the forcible withdrawal of priests, and the removal from forests and ways of crosses which, in the popular belief gave protection against 'devils'. A protest lodged by a group of natives of the Beryozovo district in North-western Siberia was characteristic in this respect. The natives in question wrote a letter complaining that the local communist secretary did not allow them to have a priest. Their actual words were: We can't do without a priest because this is our faith.' ('My ne mozhem bez popa potomu chto vera nasha takaya'.) The letter of protest was printed in 1934 in *Revolyutsiya i Natsionalnosti*, the official organ of the Soviet of Nationalities as a general illustration of the fact that priests still enjoyed confidence in certain parts of the Far North.*

Today most of the Far Eastern tribes are outside the reach of those reduced activities which are still permitted to the Russian Orthodox Church in the U.S.S.R. Whilst churches are tolerated in old towns where their existence is traditional, it has been the consistent policy of the Soviet Government not to allow Christian houses of worship to be erected in the so-called 'socialist cities' which are the products of the Soviet period. In the Far East this applies to Magadan and Komsomolsk, places which among their polyglot population count quite a number of detribalized natives. Members of the two larger nationalities of the Soviet Far East, Yakuts and Buryat-Mongols, are, as far as they are converts to Christianity, in a better position than the members of the smaller tribes. There are churches in the capitals of Yakutia and Buryat-Mongolia and presumably also in other localities of these Republics. These are under the jurisdiction of the Metropolitan of Irkutsk and Chita, whose diocese is larger than the whole of Western Europe.

STALIN – THE SUN

Against Shamanism and Christianity the Soviet régime uses one and the same metaphysical antidote – the Lenin-Stalin cult. In the territories of the Far Eastern tribes this cult has a particularly colourful variant. It takes the form of folk-tales which depict Lenin and Stalin as 'super-

* *Revolyutsiya i Natsionalnosti*, Nr 53, July 1934, pp. 51–57.

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208 773 shamans' fighting and exterminating the 'evil spirits'. Lenin and Stalin appear in these 'folk-tales' as legendary heroes, as eagles liberating the people from the 'bad black kite' (a Tunguz folk-tale), and, in particular, as something approaching 'sun-gods'.

208 773 538 It is understandable that the idea of the sun must have a powerful appeal for peoples living in Arctic and sub-Arctic regions. Everything associated with the sun is good, wonderful and divine. The Soviet régime has made ample use of this. The Soviet literary journal *Zvezda* rightly said that several volumes could be compiled from all the legends, stories, tales and songs in which Lenin and Stalin are depicted as heroes who gave to the people of the North the inextinguishable sun.[34] Typical of this 'sun literature' produced for the Far Eastern aborigines is the Nanai folk-tale – *Sun of the People*; – 'and there came a time when a hero (who, although living far away from the Nanai people, saw and knew everything) took the sun into his hands, and turned it in such a way that its warmest rays shone where it was dark, and where down-trodden peoples were suffering. And they then knew well-being, warmth and happiness. The name of the hero was Lenin. When a great disaster befell the earth – when Lenin died – bad people were pleased. They thought that the sun would stop shedding its light on the people, but their glee was shorter than the space of a minute, because the people's sun was guarded by another hero. He is the nearest friend and companion of Lenin, and his name is Stalin. Nobody can equal the strength of that hero. His eyes see everything that goes on on earth. His ears hear everything that people say. His brain knows all that people think. His heart contains the happiness and the woe of all peoples. The depth of his thought is as deep as the ocean. His voice is heard by all that inhabit the earth. Such is the greatest of the very greatest in the whole world. And he took the sun out of Lenin's hands, and lifted it very high. And since then happiness shines on earth, because it is impossible for the sun not to shine.'[35]

The same motif as in the Nanai tale *The Sun of the People* is to be found, with slight variations, in the poems and tales produced for the benefit of the other small ethnic groups of the Far East and Far North.

Something could be said even in favour of the Soviet 'sun' propaganda in as far as it banned the fear of 'evil spirits'. Unfortunately, the Soviet régime has replaced the fear of the spirits by the fear of its own power and the institutions and bogies which it has created. One of them is the wicked foreigner, always ready to attack the natives with the most ghastly and devastating weapons.

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FAR EASTERN ABORIGINES AND SOVIET FOREIGN POLICY

Destiny has placed the Far Eastern natives into politically and strategically important regions, the mouth of the Amur, the Russian islands of the North-west Pacific, and the territory bordering the Behring Strait. Consequently, the nationalities concerned can only too easily be dragged into the struggle of the big powers for the Pacific. In fact, they have already played their modest part in world politics, and may do so in future. The Nanai, Udege and Nivkhi have participated in Russian-Chinese rivalries. The Udege, Nanai and Ainu have stood between the lines in Russian-Japanese conflicts. The Chukchi, Aleuts and Asiatic Eskimos are involved in the American-Russian antagonism.

The Soviet régime has always been aware of the special position of the small Far Eastern nationalities, and has framed its propaganda accordingly. It has presented itself to the peoples concerned as their saviour rescuing them from 'Chinese merchant capitalism' or from 'Japanese militarism' or from 'American robbery'. The aim of Soviet 'native policy' in the Far East is thus to make the local nationalities anti-Chinese, anti-Japanese or anti-American, as the case may be, and to instil in them a feeling of gratitude towards Russia and the Russians.

Not everything which Russian propagandists tell the natives about other nations is necessarily untrue. It is a fact that Chinese merchants were, for a long time, almost sovereign rulers in the interior of the Russian Pacific province, and exerted a tyrannical overlordship over the aborigines. In some cases the aborigines were reduced to outright serfdom. But even Russian sources have had to admit that the Chinese were interested not merely in profits, but also in spreading their culture. In the absence of any major Russian cultural activities the Chinese ran schools for the aborigines. The latter studied Chinese history, and grew familiar with Chinese institutions. Russia and things Russian were either ignored altogether, or represented in a distorted light.[36] Some of the aborigines completely abandoned their mother tongue, and adopted the Chinese language. The Soviet régime brought about a complete change. It ended the economic exploitation of the natives by Chinese merchants and stopped Chinese cultural propaganda. Cultural domination passed into the hands of the Russians. From a Russian nationalist point of view this was undoubtedly a great success, but whether it is preferable for a Far Eastern people to accept Russian or Chinese civilization is a matter of opinion.

THE NANAI

The most important nationality which the Soviet régime has claimed to have rescued from the Chinese are the Nanai. They are the largest single

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gives an optimistic picture of the Russian reindeer situation states that a new period of decline set in during the war owing to the increased slaughter for the army and inferior care of the herds resulting from the mobilization of many native herdsmen.[14] After the war the position improved but whether and when the peak figure of 1931 was reached again, is impossible to say. Such increases in the number of reindeer as there were, were brought about, it seems, by a more liberal application of the collective farm statute. Collective farm members were encouraged to own small reindeer herds privately. The maximum size of these privately owned herds is not known but cases have been mentioned of individual collective farmers having as many as 80, 90, 130, and even up to 200 reindeer each.[15]

The reindeer problem has caused difficulties to Soviet administrators not only in the purely economic sphere but also in the field of education. What is needed in the Far North is a school which would help to raise hunting and reindeer breeding to a higher level. The more enlightened Russian pedagogues are the first to admit that such a school does not exist. One of the school inspectors posted to Northern Siberia quoted, not without a certain measure of approval, a reindeer breeder who refused for a long time to entrust his two sons to a Soviet boarding school. The father in question said that he taught his children to hunt game, to catch the polar fox and to ride reindeer. In school, he added, they would not learn all this, and when they had finished they would have no practical knowledge. An article in the *Teachers' Gazette* stated that there was a 'grain of truth' in the complaint of the old reindeer breeder. 'The school is indeed too much cut off from practice and thus not able to prepare children for the life in the Far North.'[16] A similar problem, it is true, also exists in other countries. Richard Finnie, in his book *Canada moves North*, says that Eskimo children, after spending years in boarding schools, return to their families unfitted for the lives they must lead.[17]

THE CULTURAL REVOLUTION

Whatever the quality of school education in the Russian Far North may be, it is a fact that the Soviet authorities have carried out a big cultural revolution in the native territories. The most important part of it has been the liquidation of illiteracy. Until 1931 the Far Northern and Far Eastern peoples could express themselves in writing only in the form of drawings or through the medium of the Russian language. In May, 1931, they received an alphabet of their own, the 'Unified Northern Alphabet' as it was called. It was officially approved by the Ministry of Education of the R.S.F.S.R. The 'Unified Northern Alphabet' was a Latin alphabet and the decision to adopt it was not taken without a long struggle fought out behind the scenes between the supporters of latiniza-

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tion and those who preferred the Russian alphabet or at least a 'mixed alphabet' in which Russian letters would predominate.

In the Soviet Far East the ethnographic section of the Society for Regional Research declared itself with great vigour against all attempts at russification. In a memorandum the Society listed four reasons why only the Latin alphabet could be introduced for the languages of the Chukchi, Koryaks, Nanai, Nivkhi and the other Far Eastern tribes:

1. The successful latinization of the alphabets of the oriental languages.
2. The genuinely international character of the Latin alphabet.
3. The inadequacy of the Russian alphabet which would have to be supplemented by a number of letters.
4. The fact that the Russian alphabet itself would not be long-lived since progressive scholars had already raised the question of its latinization.[18]

These four considerations were shared by the Moscow authorities who had decreed the introduction of the Latin alphabet for the Northern peoples.

The Latin alphabet remained in force for less than six years – until February 11th, 1937, when a new decree abolished and replaced it by a russianized alphabet. The new script was intended for thirteen small nationalities of whom eight lived either wholly or partially in the Far East. The replacement of one alphabet by another rendered necessary the destruction of a large amount of printed material that had been prepared for the Northern peoples. Between 1931 and 1933 alone as many as 200,000 textbooks, 100,000 pamphlets of a political nature and 10,000 books on medical and economic subjects had been issued for them.[19]

Soviet school policy proper did not suffer from such a disturbing lack of continuity as the Soviet literacy campaign. The number of schools increased systematically and steadily and now there are as many as 200 native schools in the Khabarovsk Territory. They are supervised by a Council of National Schools which was created in 1949 and which works under the education department of the Khabarovsk territorial administration. The Council does not only administer schools but also deals with all problems connected with the writing of text-books, and the translation of classical Russian and Soviet literary works into the local languages. The Council relies on the graduates of the teachers' training colleges in Petropavlovsk (for South Kamchatka), Anadyr (for Chukotka), Tigilsk (for North Kamchatka) and Nikolayevsk-on-Amur. The most important and largest of the four is the college in Nikolayevsk. Between its foundation in the early 'thirties' and 1951 it trained 170 Russian and 105 native teachers belonging to ten different Far Eastern nationalities.[20] The most gifted young people from among

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433 the young reindeer are processed for leather and as wild leather (chamois leather) are a product in demand for export.

Hunting

•224 The valuable fur-bearing animals, once so numerous, have almost completely disappeared from the settled areas and have withdrawn into the inaccessible wastelands. And, nevertheless, the Far Eastern region with its vast, wild forests is still, even today, a grateful empire of hunters. Approximately a third of the furs acquired in the Soviet Union are won in the Far East. Transbaykal is not so active in this. Squirrels and foxes provide the bulk of the skins ; the sable has been completely exterminated in wide stretches of land and is now only rarely encountered. In the tundra region the Polar fox is the most important animal hunted. /133/ The number of large wild animals has also been heavily decimated by the earlier rapacious hunting. The spotted stag /Fleckenhirsch/, sought because of its "Panten" /unhardened antlers/ and formerly very numerous in the Amur and Ussuri region, occurs now only very rarely in the open hunting ground and is kept today only in animal parks in the Sikhote-Alin'; of these seven are known with several thousand stags. For the protection of the plant and animal world rather large areas in the Sikhote-Alin', on Kamchatka, and on Lake Baykal have been declared nature protection areas.

Hunting for fur-bearing animals is organized by the state and is done from numerous "bases, " where the hunter receives not only his hunting equipment but also other necessities of life, and then goes out to hunt in cadres. In their hunting, these state hunters have to follow fixed instructions, varying from place to place, for the sparing and preservation of the wild life. At the end of the hunting period the skins are delivered to the bases, and the hunter is paid according to his output.

Fishing and Hunting of Sea Animals

226 In Transbaykal, which lies inland, fishing has only a subordinate role. Apart from small lakes, which are, however, rich in fish, the fishing practised professionally is concentrated on Lake Baykal. Its outstanding fish is the omul (Coregonus omul Pall.), a type of salmon, [255] whose spawn is bred and set out. Some fish canning factories in various ooo localities on the coast process the catch not used locally. Not insignicant

The coasts are rocky and steep and are torn up into adventurous, picturesque forms by the heavy breakers. Thus the coasts project a romantic-dim picture in the fog. Thousands of birds make their home on the rocks. 133

The Commander Islands have become famous for the catching of sea otters (seals) there, but this wealth is almost completely destroyed today. The 600 inhabitants, which consist of a mixture of Aleuts, Russians, Eskimos, Kurils, etc., live almost exclusively from what the sea offers them. On the land itself foxes are hunted. 225 161 224

The Kurils

The island garland of the Kurils came to the Soviet Union after the end of World War II. These islands are not too well known, and therefore somewhat more space is to be devoted to them. 133

The Kurils, along with Hokkaido and Kamchatka, form the most northerly arc of the outer frame of the east Asiatic continent. The Kurils represent a connection between the volcanic massif of Hokkaido Island and the volcanos of Kamchatka. To the island chain belong 36 islands which are larger in terms of area, 20 smaller islands, and many uninhabitable rocks, which often barely project from the sea. According to the local division of the islands, the Kurils can be divided into a 1,200 kilometer long main chain, which begins in the north with Shimushu Island and ends with Kunashiri Island off Hokkaido, and into a second, parallel chain, which, however, is only approximately 100 kilometers long. This shorter chain begins at Hokkaido with Nemuro Island, stops with Shikotan Island, and lies east of the main chain. The entire area of the Kurils is given at 15,600 square kilometers, of which 40 percent is on the four largest islands, namely Etorofu, Paramushiru, Kunashiri, and Uruppu. The most northerly island in the chain, whose name is Araito, lies under 50° 56' N latitude, while the most sourtherly lies under 43° 26' N. The Kurils, therefore, lie approximately at the latitude between Leningrad and Burgas in Bulgaria.

/304/ The understructure of the Kurils rises like a mountain ridge from the floor of the sea, whose highest parts project beyond the surface of the water as islands. The slope of this submarine ridge has various forms. Toward the Sea of Okhotsk it declines relatively steeply to a depth of 3,000 meters (the greatest depth is 3,374 meters). The slope toward the Pacific is bigger, for here the Kuril deep sea

Not insignificant

also is the catch of seals (Phoca sivirica), which are preserved in large 225.
numbers in Lake Baykal.

Of much greater importance, however, is the fishing in the 226
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The wealth of fish and sea animals of all kinds in the peripheral 228
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smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated.

361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

The coasts are rocky and steep and are torn up into adventurous, picturesque forms by the heavy breakers. Thus the coasts project a romantic-dim picture in the fog. Thousands of birds make their home on the rocks. 133

The Commander Islands have become famous for the catching of sea otters (seals) there, but this wealth is almost completely destroyed today. The 600 inhabitants, which consist of a mixture of Aleuts, Russians, Eskimos, Kurils, etc., live almost exclusively from what the sea offers them. On the land itself foxes are hunted. 225 161 224

The Kurils

The island garland of the Kurils came to the Soviet Union after the end of World War II. These islands are not too well known, and therefore somewhat more space is to be devoted to them. 133

The Kurils, along with Hokkaido and Kamchatka, form the most northerly arc of the outer frame of the east Asiatic continent. The Kurils represent a connection between the volcanic massif of Hokkaido Island and the volcanos of Kamchatka. To the island chain belong 36 islands which are larger in terms of area, 20 smaller islands, and many uninhabitable rocks, which often barely project from the sea. According to the local division of the islands, the Kurils can be divided into a 1,200 kilometer long main chain, which begins in the north with Shimushu Island and ends with Kunashiri Island off Hokkaido, and into a second, parallel chain, which, however, is only approximately 100 kilometers long. This shorter chain begins at Hokkaido with Nemuro Island, stops with Shikotan Island, and lies east of the main chain. The entire area of the Kurils is given at 15,600 square kilometers, of which 40 percent is on the four largest islands, namely Etorofu, Paramushiru, Kunashiri, and Uruppu. The most northerly island in the chain, whose name is Araito, lies under 50° 56' N latitude, while the most sourtherly lies under 43° 26' N. The Kurils, therefore, lie approximately at the latitude between Leningrad and Burgas in Bulgaria.

/304/ The understructure of the Kurils rises like a mountain ridge from the floor of the sea, whose highest parts project beyond the surface of the water as islands. The slope of this submarine ridge has various forms. Toward the Sea of Okhotsk it declines relatively steeply to a depth of 3,000 meters (the greatest depth is 3,374 meters). The slope toward the Pacific is bigger, for here the Kuril deep sea

3: Thiel--359 K-4,5 (no date) 1953 RR1 Siberia RR1

The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary, on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

means of transportation. They have built 653.2 kilometers of railroad lines, and in addition they have improved the land roads, too, so that they can be traveled regularly by buses. However, this opening up to traffic has generally been limited to the regions near the coast and to the most southerly part of the island, while the greatest part of the interior, as in northern Sakhalin, remained left to itself. Now the most important coal deposits also lie not far from the coast, and the Japanese succeeded in bringing production in a large number of mines up to approximately two million tons by the beginning of the last war. Of this 500,000 tons could be exported to Japan. The remainder was used in Sakhalin, above all in the wood industry, which had been developed on a large scale by the Japanese. Since 1929 the Japanese had gone about, in a planned fashion, the building up of a cellulose and paper industry in southern Sakhalin, in order to be able to supply their home economy with these products. At the end, just before the outbreak of war, there were eleven large cellulose and paper factories in the country, and their production constituted almost 90 percent of the industrial production of southern Sakhalin. The share of these factories in the total production of Karafuto was around 60 percent. In addition, southern Sakhalin delivered large quantities of wood as cut wood and raw lumber. Southern Sakhalin was also very important to Japan as a base for fishing, which produced rich surpluses. However, in one thing the Japanese did not succeed: the securing of food for the population from the island itself. In this particular Sakhalin was an importing region, although the Japanese made every effort to expand agriculture and the breeding of livestock.

/283/ After the evacuation of the Japanese and the taking over of southern Sakhalin by the Soviet Union, the Soviet Union has striven to fill the land with people and to get the economy's production going again. On this there are numerous reports, which tell especially of the founding of kolkhoz and sovkhoz. In addition there are constant reports on the establishment of fishing stations and of fish-processing central stations, but there are only a very few reports on the taking over of coal mines and of getting them into production. There is little information on the installations of the wood industry, although it is to be assumed that the Soviet Union has above all laid value on getting the industrial plants into production, and apparently, too, everything has been done so that these plants could take up their production again.

when the Kamchadal, Eskimo 101 563 [226]

salmon run begins, festivals of joy and work begin for young and old. As a rule the fish are caught in fixed traps, which are drawn across the river so that the way is barred for the fish as they go upstream. The fish press together in great masses in front of this weir and are caught with simple scoop nets. The common drying place is never [251] empty, for it is important to preserve as many fish as possible for the entire year by drying them. In addition, an older method is still used occasionally: the fish are buried in the earth and there becomes sour; hence there is a kind of fish silo from which fish can be fetched during the winter as needed. A penetrating fish smell fills the entire settlement, and there is no end to eating during the catching season. It is not too much to say that the Kamchadal live on fish and tea. The [231] dog, the most important domestic animal and beast of burden for all sedentary native northeast Siberians, is also fed on fish. The number of dogs is considered as the mark of wealth. There are families which have 200 to 300 dogs, which are housed in a pen near the house and fill the entire region with their hoarse barking. It is inadvisable for strangers to go near these half-wild animals. At present the horse is spreading more and more and is beginning to displace the dog as the beast of burden. Through the state organization of fishing and the introduction of modern methods, large sections of the Koryak have also been incorporated and placed in a new order. Many have also turned to agriculture and cattle-breeding.

/111/ The Asiatic Eskimo live on the banks of Bering Strait and occupy 17 villages with approximately 1,600 people. They ex- [174] tended much further formerly; and it is for this reason that there are Eskimo names for places now occupied by Maritime Chukchee. The displacement of the Eskimo must have been done simply by force, for the sagas of the Chukchee are filled with reports of hard battles with the Eskimo, battles which, however, ended long before the entrance of the Russians. Today the two peoples live harmoniously beside one another in separate villages. The Asiatic Eskimo differ from their relatives in Alaska in their speech but culturally they form a unit with them. With their life completely directed toward the sea, they seldom go into the interior of the land; for such occasions they use dog sleds. On the Commander Islands live approximately 500 Aleut, who, according to their language, are related to the Eskimo. They, too, live completely from catching sea animals, since the islands offer them only birds.

As has already been said, the Buryat Mongols have a cultural

231
433 the young reindeer are processed for leather and as wild leather (chamois leather) are a product in demand for export.

Hunting

224 The valuable fur-bearing animals, once so numerous, have almost completely disappeared from the settled areas and have withdrawn into the inaccessible wastelands. And, nevertheless, the Far Eastern region with its vast, wild forests is still, even today, a grateful empire of hunters. Approximately a third of the furs acquired in the Soviet Union are won in the Far East. Transbaykal is not so active in this. Squirrels and foxes provide the bulk of the skins ; the sable has been completely exterminated in wide stretches of land and is now only rarely encountered. In the tundra region the Polar fox is the most important animal hunted. /133/ The number of large wild animals has also been heavily decimated by the earlier rapacious hunting. The spotted stag /Fleckenhirsch/, sought because of its "Panten" /unhardened antlers/ and formerly very numerous in the Amur and Ussuri region, occurs now only very rarely in the open hunting ground and is kept today only in animal parks in the Sikhote-Alin'; of these seven are known with several thousand stags. For the protection of the plant and animal world rather large areas in the Sikhote-Alin', on Kamchatka, and on Lake Baykal have been declared nature protection areas.

Hunting for fur-bearing animals is organized by the state and is done from numerous "bases, " where the hunter receives not only his hunting equipment but also other necessities of life, and then goes out to hunt in cadres. In their hunting, these state hunters have to follow fixed instructions, varying from place to place, for the sparing and preservation of the wild life. At the end of the hunting period the skins are delivered to the bases, and the hunter is paid according to his output.

Fishing and Hunting of Sea Animals

•226 In Transbaykal, which lies inland, fishing has only a subordinate role. Apart from small lakes, which are, however, rich in fish, the fishing practised professionally is concentrated on Lake Baykal. Its outstanding fish is the omul (Coregonus omul Pall.), a type of salmon, [255] whose spawn is bred and set out. Some fish canning factories in various ooo localities on the coast process the catch not used locally. Not insignicant

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●228 The total catch from sea fishing in the USSR in 1938 was 1,490,000 tons, of which the Far East contributed 25.2 percent, followed by the Volga-Caspian area with 23 percent. A total catch of 2.2 million tons was planned for 1950. On the whole it was filled only by 96 percent, while the Far East overfilled its quota by 50 percent. Accordingly the Far East's percentage of the total catch of the Soviet Union has grown still more. More exact figures on the individual regions have not been published. A total catch of 3,476,000 tons is planned for 1955 for the Soviet Russian sea fishing industry.

In evaluating the catch of the various areas, however, it must be taken into consideration that in the Far East especially valuable types of salmon constitute the bulk of the catch. Furthermore it should be brought up that because of its small population and therefore its own low requirements, the Far East belongs to the most important surplus area. As a consequence of this development an active fish industry has come into being here. All the larger places on the coast have cold-storage houses. However, there has been a special rise in [255] fish canning factories, whose number has risen from 2 in 1913 to 42 in 1938. At the same time in connection with these, factory installations have been created which produce on the spot the necessary requirement of cans. In addition there are special ships which process the catch right on board. In this connection the ships for catching crabs/shrimp should be mentioned; these ships can be described as floating canning factories. Their work area is the /135/ west coast of Kamchakta. In catch of crabs/shrimp the Far Eastern region has first place in the world.

The coastal area on the Sea of Japan from the Korean border to the Tatar Strait constitutes the most southerly fishing district. Here herring and sardine fishing stand in the foreground. Fishing is done above all in the bays, with the richest catches coming from the Bay of Peter the Great. The center of this and the processing point is Vladivostok, which has a modernly equipped canning industry. In the years before 1938 the catch of herring went in part to the interior and in part to Japan.

The area around the lower course of the Amur constitutes the second fishing district. This great river serves as preferred spawning ground especially for two of the Pacific types of salmon: the beloved Keta salmon (Oncorhynchus Keta Walb), which provides red caviar and is called dog salmon by the Americans; and the somewhat smaller gorbusha (humpback salmon, Oncorhunchus gorbusha Walb). There

are some curiosities in the appearance of these types of salmon, especially the gorbusha. Peter Schmidt has devoted a detailed investigation to them (Osteuropa /East Europe/ 1928, II), and points out that these types of salmon have not multiplied as much as the European types, since they spawn only once during a lifetime and in addition lay only approximately a tenth the number of eggs that, for example, the Rhine salmon lays. Especially interesting, however, is the fact that the appearance of the swarms of gorbusha has a remarkable two-year periodicity. L. S. Berg (27) gives the following figures on the catch of

27. Berg, L. S., Landshaftno-geograficheskie Zony SSSR /The Landscape Geographical Zones of the USSR/, Part I (Moscow, 1931), p. 390.

gorbusha in millions of fish: According to L. S. Berg this two-year

1914	14.5	1921	0.2
1915	1.0	1922	9.0
1916	9.2	1923	0.0
1917	0.5	1924	12.2
1918	14.9	1925	0.0
1919	0.4	1926	14.1
1920	12.0	1927	0.0
		1928	16.4

periodicity in the Amur district developed only since 1908, while no such periodicity has been determined on the coasts of Kamchatka; on the contrary, the Keta salmon appears regularly every year in both regions. As a result of the two-year periodicity of the appearance of the gorbusha there is also a corresponding fluctuation in the total catch of the Far Eastern region. The excess of fishing in the area of the lower course of the Amur is counteracted by artificial breeding of salmon spawn. The center of this fishing district is Nikolayevsk on the /136/ lower Amur, where 75 percent of the total population serves the catching and processing of fish.

The third fishing district is the eastern side of Sakhalin Island, where in addition to the various types of salmon, herring, cod, tuna fish, and mackerel above all are caught. In contrast to the other fishing districts, however, Sakhalin Island falls behind in importance.

The main fishing district of the Far East, which has been de-

228 veloped most heavily in recent years, is the Kamchatka Peninsula. The highly valued Pacific salmon types stand in first place in the catches here: red, silver, and king salmon (Oncorhynchus nerka, Oncorhynchus kisutch, Oncorhynchus tschawytscha Walb). All the rivers on the peninsula and on the neighboring mainland are visited annually by great swarms of salmon, and accordingly the processing is divided among numerous coastal localities, which are discussed in detail in the discussion of the Kamchatka Peninsula. The Sea of Okhotsk off the western coast of Kamchatka appears to be especially favorable to the development of crab/shrimp/Krabben/which regularly appear in the spring come to the shores from the depths of the sea, where they spend the winter. Therefore, the crab/shrimp-catching fleet is also stationed here. The seas around Kamchatka, especially the Bering Sea, are, in addition, rich in sea suckers /Seesäuger/ such as walruses, seals, and whales, although the latter are in the process of dying out. Petropavlovsk, which is the administrative center of the peninsula, constitutes the center of the hunting of sea animals. How very much the rise in the catching of ocean fish and sea animals has influenced the development of Kamchatka is shown best by the increase in population, which in 1914 was estimated to be less than 20,000, which grew to 30,000 in 1926, and which by 1948 had already exceeded 120,000. The surplus of fish caught here is used for the other parts of the Soviet Union, or is available for export, with western Europe as the principal consumer.

A peculiar and typically East Asiatic fishing industry has developed on the southern coast of the Ussuri country. The principal objects of this industry are sea cucumber /Seegurke/ "trepang" (Holothuria edulis) and the sea cabbage/Seekohl/, a kind of seaweed (Laminaria saccharina). The edible trepang is fetched from a depth of 4 to 10 meters with special anchors or by divers. The sea cabbage is torn from the floor of the sea with hooks and comes dried out to the market. Both sea products go to China where they are an especially beloved food.

The entire Soviet Russian catch of ocean fish in the Far East is included in the organization of "Dalrybtrest" (Far East Fishing Trust), which has its seat in Vladivostok. The fishing concessions in the vicinity of the Russian coasts, assured at one time to the Japanese through treaties, have become untenable through the outcome of the last war. It should not be assumed that these treaties will be renewed, and accordingly extensive possibilities of development stand open to the Soviet Russian

catching of ocean fish in the Far East.

133

(Captions to Map on page 235)

1. Baykal Daur
2. Nerchinsk Daur
3. Vitim Plateau and the northern mountain forest provinces
4. Olekma mountain country and the Olekminsk Stanovik
5. Oldoy-Zeya mountain country
6. Zeya-Bureya plain
7. Bureya mountain country
8. Amur plain
9. Sikhote-Alin'
10. Ussuri-Khanka depression
11. Sakhalin Island
12. Area of the Amgun and the Uda
13. Okhotsk coastal area
14. Provinces of the extreme northeast
15. Kamchatka Peninsula

responsible for 32 percent. On the Transbaykal side, in the area of 2280
the Buryat-Mongol ASSR, approximately 30,000 double centner of fish are caught annually; in good years even more than 35,000 double centners of fish are caught. Thus a series of fishing settlements animate the Transbaykal shore. The most important are Nizhne-Angarsk, 361
which lies on the extreme north east tip, Ust'-Barguzin at the mouth [255]
of the river of the same name, where there is also a fish canning factory, and, south of this, Goryachinsk, which in addition to fishing [312]
is acquiring a growing importance as a health resort because of its hot springs.

Baykal Daur

Baykal Daur begins in the west with the Khamar-Daban. This 133
mighty mountain massif, projecting up to 2,217 meters, follows the southern shore of Lake Baykal. Along this shore, runs the railroad which encircles Lake Baykal and which is forced to follow all its windings. This mountain massif is little divided and has predominantly soft forms with dome-like heights which are seldom rocky. These heights, as Prassolov describes them (160), give the impression of being

160. Prassolov, L.I. Iuzhnoe Zabaykaliye /Southern

over long years, Lake Baykal remains for 116 days under a solid ice covering, which can attain a thickness of up to 1.25 meters.

The fauna of the lake is peculiar, representing a true collection of endemic forms. Of the 1,000 types determined so far, around 75 percent are endemic. Here in the middle of the continent there is a type of seal called "nerpa" by the Russians (Phoca sibirica), which is related both to the same type found in the Arctic Ocean (Phoca hispida) and also to one found in the Caspian (Phoca caspia). The next fauna worthy of mention is the small, viviparous spider fish (Callionymus baicalensis), whose family (Comephoridae) is peculiar only to Lake Baykal. Exceedingly large is the number of mollusks. To date 85 types have been determined, of which two endemic families of brachiopods (Benedictiidae and Baicaliidae) are typical fresh water representatives. The great age of the Baykal fauna, which must have followed an isolated development, indicates the /209/ /Sketch Map of the Provinces:// /210/ appearance of the Baicalia mollusks already in the fresh water deposits of the lower Cretaceous in Transbaykal.

As a result of its depth and its favorable natural landing places, Lake Baykal offers the best opportunities for water transportation. A steamer line which is traveled regularly, connects all the larger settlements with one another and also serves the transportation of goods. Wood constitutes the bulk (40 percent) of the goods transported, in second place are stones and building material (30 percent), then follow fish, salt, flour, and others. The wood as a rule is floated down the rivers to the lake and then is transported by steamer tugs to the mouth of the Angara, where it is transferred to the railroad in Baykal station, which is equipped with mechanized loading equipment, or a small part of it is floated directly to Irkutsk. Wood is delivered on the Transbaykal side primarily by the river areas of the Barguzin and the Upper Angara.

Also of economic significance is fishing, which is pursued both in the open sea and also in the bays. The principal role in this fishing is played by the catching of a type salmon, the omul (Coregonus omul Pall. or Coregonus migratorius), and of fish related to the omul: these fish constitute 58 percent to the catch. In second place are types of carp (22 percent), which are caught primarily in the lagoons and in neighboring lakes. Also the catch of seals, already mentioned, is not insignificant. In 1948 there were 1,380 animals caught. Fishing is pursued both by the state and also by fishing kolkhoz. The latter caught 68 percent of the total catch in 1949, while the state was

1 [i.e. Lake Baykal -- Analyst]

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Sketch Map of the Buryat-Mongol ASSR: Industry:

- Coal Mines
- Construction of wooden ships
- Transport machinery
- Wood industry
- Groceries
- Molybdenum
- Glass industry
- Fish industry
- Gold
- Dairy plants
- Various industries

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- Border of the Buryat ASSR
- Border of the USSR

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities engaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

Of greatest importance for the economy of Kamchatka is fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking of the fish and salting of the fish in vats and above all to processing in canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

world. The crabs are extraordinarily large and attain lengths of half a meter and more. They are drawn up from the bottom of the sea in drag nets in which they get entangled. Worthy of mention in this connection are the floating crab canning factories, which are used on the west coast and which carry out on board all the work from catching to canning.

The capital of the peninsula is Petropavlovsk. The city lies on Avacha Bay, which freezes over only exceptionally. The bay is surrounded in a semi-circle by the panorama of high volcanos. The city's favorable natural harbor, which a short while ago got a ship-yard with a dock for ships of up to 5,000 gross registered tons, gains more and more in importance since the ships of the Northern Sea Route spend the winter here before they start out on their trip to the north. This applies especially to ships which regularly travel to the Kolyma River in order to ensure supplies of heavy materials to the gold regions on the upper course of the Kolyma. Petropavlovsk is the center of the hunting of sea animals and of the industries connected with this. In addition, the city also has fish processing installations, a brickyard, saw mills, and a can factory, which is of especial importance since it supplies the necessary material to all the smaller fish processing localities. In the treeless delta of the Kamchatka River lies Ust'-Kamchatsk, the next most important locality on the peninsula. More than 2,000 workers /302/ work in the canning factories there in the summer. The locality, in addition, has a special importance as the gateway to the interior of the peninsula, which can be reached easily only through the Kamchatka valley, while the other approaches have to overcome difficult passes. In increasing measure also wood is floated down the Kamchatka River to the coast, where it is processed in and sent on from Ust'-Kamchatka. In the broad longitudinal valley of the Kamchatka there are a series of villages, among which Verkhne Kamchatsk and Mil'kovo should be mentioned. In this area removed from the coast, horses are kept, since supplying fish food for dogs causes difficulties. At the inner entrance to the cross valley, at the foot of the largest volcano cone, lies the village of Klyuchi, from which the volcano receives its name. Here the traffic lines from the interior merge and make the locality into a central trading place, especially for fur goods. In addition to Russians and Koryak, some Chinese and Koreans have also settled here. Klyuchi has a scientific observatory for the study and special observation of the Klyuchevskaya Sopka. Below the village the Kamchatka widens into a sea decorated with islands.

with islands.

361 The main locality on the west coast is Bol'sheretsk. It is the
228 center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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1. Aziatskaia Rossiia /Asiatic Russia/. Collection, processed by the

when the Kamchadal, Eskimo 101 563

salmon run begins, festivals of joy and work begin for young and old. As a rule the fish are caught in fixed traps, which are drawn across the river so that the way is barred for the fish as they go upstream. The fish press together in great masses in front of this weir and are caught with simple scoop nets. The common drying place is never empty, for it is important to preserve as many fish as possible for the entire year by drying them. In addition, an older method is still used occasionally: the fish are buried in the earth and there becomes sour; hence there is a kind of fish silo from which fish can be fetched during the winter as needed. A penetrating fish smell fills the entire settlement, and there is no end to eating during the catching season. It is not too much to say that the Kamchadal live on fish and tea. The dog, the most important domestic animal and beast of burden for all sedentary native northeast Siberians, is also fed on fish. The number of dogs is considered as the mark of wealth. There are families which have 200 to 300 dogs, which are housed in a pen near the house and fill the entire region with their hoarse barking. It is inadvisable for strangers to go near these half-wild animals. At present the horse is spreading more and more and is beginning to displace the dog as the beast of burden. Through the state organization of fishing and the introduction of modern methods, large sections of the Koryak have also been incorporated and placed in a new order. Many have also turned to agriculture and cattle-breeding.

[226] [251] [231]

/111/ The Asiatic Eskimo live on the banks of Bering Strait and occupy 17 villages with approximately 1,600 people. They extended much further formerly; and it is for this reason that there are Eskimo names for places now occupied by Maritime Chukchee. The displacement of the Eskimo must have been done simply by force, for the sagas of the Chukchee are filled with reports of hard battles with the Eskimo, battles which, however, ended long before the entrance of the Russians. Today the two peoples live harmoniously beside one another in separate villages. The Asiatic Eskimo differ from their relatives in Alaska in their speech but culturally they form a unit with them. With their life completely directed toward the sea, they seldom go into the interior of the land; for such occasions they use dog sleds. On the Commander Islands live approximately 500 Aleut, who, according to their language, are related to the Eskimo. They, too, live completely from catching sea animals, since the islands offer them only birds.

[174]

As has already been said, the Buryat Mongols have a cultural

241 to the cultivation of sugar beets; the area devoted to their cultivation has again increased in the Khanka Lake area. Tea is supposed to become a new product of the /Russian/ Far East. In 1950 /131/ the [242] Botanical Institute of Leningrad sent an expedition there in order to explore, by attempts at cultivation, the practical possibility of planting tea bushes.

241 433 All the reports mentioned above are only individual pictures of the agricultural film which is being run in the Far East. These pictures show the great strivings of the Soviet Union to use all its power to advance agriculture in these regions. If the grain harvest in the actual Far Eastern area had increased 150 percent in 1947 as compared with 1913 and the potato harvest had even increased 200 percent (Trud, 25 October 1947), this increase in production stands in contrast to an approximately 300 percent increase in population in the same period; accordingly even today the same problems still exist in supplying the population of this area with food, as has been described in the above chapter, since an additional population increase runs parallel to the increase in production, even though the two curves may perhaps have gotten somewhat closer since 1947. The actual Far Eastern regions (not including the Buryat Mongol ASSR and the Chita Oblast) can still be regarded even today as import areas in terms of food. Their dependence on obtaining supplies is alleviated by the increased cultivation of potatoes and soy beans, and import at present is no longer a problem since Manchuria with its agricultural surplus has been brought into the Soviet sphere.

Animal Breeding

231 433 In the livestock-breeding of the Soviet Union Transbaykal assumes a prominent position. While on the average there are 233 cattle to 1,000 persons in the Soviet republic, there are 1,367 cattle to 1,000 persons (1938/39) in the Buryat Mongol ASSR; and while there are 602 sheep and goats per 1,000 persons on the overall average in the USSR, there are here 1,786. The important livestock-breeding areas lie left [232] of the Selenga and right of the Ude. The breeding of better strains is being carried out according to plan by crossing the Mongol cattle with the Simmentaler and by crossing the native sheep with the Rambouillet-Merino. The steppe region left of the Selenga is thus the breeding ground for improved strains. The livestock here is housed for the winter in warm stalls and fed with prepared feed. The horse, which constitutes

11.7 percent of all the livestock, and also the pig, which constitutes 6.7 percent, play a slight role in the animal economy. The situation of animal breeding in Chita Oblast is similar and has the same favorable perspectives. Dairy farming stands in the foreground here in cattle breeding. In the steppe regions of the Onon and Argun a number of studs also serve horse-breeding. In the same region camels are also bred, whose number is given at 7,000. Transbaykal as a whole is a surplus area both in grain cultivation and in animal breeding. 231 433 [234]

/132/ The following table indicates how very prominent the Buryat Mongol ASSR and Chita Oblast are in animal breeding in the overall economy of the Soviet Union:

On a collective farm in 1938 there were:

	Soviet Union	Buryat Mongol ASSR	Chita Oblast
Horses	0.7	2.0	2.5
Cattle	2.2	6.0	6.5
Sheep, goats	2.9	19.0	11.9

It is different in the Amur and Ussuri country. Animal breeding is insufficient and doesn't even cover the needs of the area. Even horses must be imported. In the southern part of the Ussuri region milk and work cattle are kept; otherwise a dairy cow farming worthy of mention has developed only in the vicinity of the cities. Meadowlands are lacking for the maintenance of cattle on a large scale. On the other hand cattle can be found in isolated cases everywhere, even in the far north. On Kamchatka their number reaches several thousand. The number of pigs in the Amur and Ussuri region is comparatively larger than in Transbaykal since the Chinese and Koreans also keep pigs. The quality, however, is low. In meat supplies, too, the Far Eastern region requires additional imports.

The reindeer breeding in the extreme northeast of the region deserves special attention. The moss tundra extending from the Chukchi Peninsula into Kamchatka offers excellent grazing land. With the European north, these regions stand in first place in reindeer breeding in the Soviet Union, which has contributed in its further development by establishing several reindeer sovkhoz. The number of animals is estimated at a total of approximately 750,000. The reindeer not only provides meat for local needs, but also provides meat for canning, for which a special factory has been erected in Anadyr'. The hides of

231
433 the young reindeer are processed for leather and as wild leather (chamois leather) are a product in demand for export.

Hunting

224 The valuable fur-bearing animals, once so numerous, have almost completely disappeared from the settled areas and have withdrawn into the inaccessible wastelands. And, nevertheless, the Far Eastern region with its vast, wild forests is still, even today, a grateful empire of hunters. Approximately a third of the furs acquired in the Soviet Union are won in the Far East. Transbaykal is not so active in this. Squirrels and foxes provide the bulk of the skins ; the sable has been completely exterminated in wide stretches of land and is now only rarely encountered. In the tundra region the Polar fox is the most important animal hunted. /133/ The number of large wild animals has also been heavily decimated by the earlier rapacious hunting. The spotted stag /Fleckenhirsch/, sought because of its "Panten" /unhardened antlers/ and formerly very numerous in the Amur and Ussuri region, occurs now only very rarely in the open hunting ground and is kept today only in animal parks in the Sikhote-Alin'; of these seven are known with several thousand stags. For the protection of the plant and animal world rather large areas in the Sikhote-Alin', on Kamchatka, and on Lake Baykal have been declared nature protection areas.

Hunting for fur-bearing animals is organized by the state and is done from numerous "bases," where the hunter receives not only his hunting equipment but also other necessities of life, and then goes out to hunt in cadres. In their hunting, these state hunters have to follow fixed instructions, varying from place to place, for the sparing and preservation of the wild life. At the end of the hunting period the skins are delivered to the bases, and the hunter is paid according to his output.

Fishing and Hunting of Sea Animals

226 In Transbaykal, which lies inland, fishing has only a subordinate role. Apart from small lakes, which are, however, rich in fish, the fishing practised professionally is concentrated on Lake Baykal. Its outstanding fish is the omul (Coregonus omul Pall.), a type of salmon, [255] whose spawn is bred and set out. Some fish canning factories in various ooo localities on the coast process the catch not used locally. Not insignicant

Both types of steppes[1] have developed on chestnut-colored soil. Within these steppes salt-pans also appear. Further toward the north the soil becomes darker, its humus content becomes greater (3 percent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the foreground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

133 Side erosion predominates. Gradually the ridges dissolve into hills. This landscape, designated by Presnyakov as the Gobi type, takes up the entire southern part of the Argun region. Here are the mountain steppes of the Onon and Argun. The Tarey Basin, which is also designated as Onon plain by Russian geographers, should be named as the third province. The Tarey forms a basin with no outlets and extends beyond the Mongolian border as far as the Kerulen. In the center lie the Tarey lakes, of which various ones cover a significant area. Thus the Barun Tarey covers 435 square kilometers, and the Sun Tarey covers 300 square kilometers. The countryside is for the most part level and is interrupted only by former river valleys and lake basins which are now dry. The /228/ remaining lakes lie 60 to 70 meters below the general surface, i.e. at an absolute height of 620 meters, but they are always still up to 5 meters deep. Despite the clear signs of recent drying up, water springs appear in many places on the surface. These springs form the centers of human life. The steppe character often gives way already here to wasteland forms.

The border between steppe and forest extends from Aksha on the middle Onon via Il'inskaya to the north to the watershed between Aga and Ingoda, then on the Ingoda to the east to the mouth of the Aga. From here the border circumscribes the Argun mountain country in an arc swinging to the south via the localities of Onon-Borzya, Akatuy, and Algachi. The border then turns again toward the northeast via Nerchinskiy-Zavod to the Argun.

Southeast of Chita there begins the Aginsk steppe, a true grass steppe, which takes up the river area of the Aga and the middle Onon. [231] Here lies the national oblast of the Buryat, who have made the area into an important livestock-breeding region. The Argun steppe takes up the entire southeast, where livestock breeding likewise dominates the economy. But here there are Russians, who pursue the breeding of cattle and sheep in large, specialized, state farms. In addition, [241] there are also some state farms for horse breeding. To the north of both steppes agriculture, with wheat as the main product, is diffused over a large area, and in a broad front it penetrates to the south. [361] Along the great rivers and also along the Argun the villages extend in a line through the middle of the steppe. The diffusion of agriculture [134] is favored by the circumstance that, despite the often very poor steppe vegetation, a horizon very rich in humus, a type of black earth, has developed under the pitted grass /Grasnarbe/.

000 The wealth of natural resources is, however, of far greater

The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population here is more agricultural. In general, however, the agrarian economy is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

361 ships and indeed in many instances make departure impossible. From
505 Ayan a route starts toward Yakutsk. This route rises steeply over the mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

361 In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an
563 important fish collection point. On the coast and also in the hinterland
241 of the depression, numerous Russians have settled. In addition to an
231 agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

133 Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

133 These volcanos, /299/ projecting far beyond the general level, give the landscape of Kamchatka its peculiar picture.

137 The bottoms of the valleys, if they are not too very swampy and covered with moss, have luxuriant meadows, which appear especially in the southern part of the peninsula and which offer excellent grazing ground for livestock. The introduction of the breeding of livestock has, therefore, attained the greatest measure here, too. To be mentioned especially as characteristic of the landscape picture are the high-growing plants in these regions, especially the umbrella-shaped "sweet grass" (Heracleum tanatum or Heracleum dulce), which grows up to 4 1/4 meters high and develops a stalk 12 centimeters thick. The natives use the juice of this rapidly growing plant to sweeten their food; the Russians earlier extracted alcohol from the plant by fermentation.

[231] [243] [273]

133 137 Entirely in contrast to the forest and park landscapes of the mountain regions which are rich in vegetation, are the tundra-like moss steppes which stretch in a broad zone along the entire western coast. In the east, on the other hand, these moss steppes form only a narrow rim around the bays. Occasionally these steppes occur also in the valleys of the mountain ranges. These monotonous regions are depressingly dismal and gloomy especially when a veil of fog hangs over them and prevents seeing any distance.

161 The population of Kamchatka according to estimates, scarcely numbered 20,000 in 1914, and the native element was in the majority at that time. But after World War I and up to the present the population has multiplied because of the increased immigration of Russians, and by 1945 the population was given at around 100,000. Thus today the Russians are predominant, constituting approximately 80 percent of the total population. Today their number is estimated to be at least 150,000. The sedentary population is divided among three lines of settlements: the east coast, the west coast, and the Kamchatka Valley.

563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities engaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

Of greatest importance for the economy of Kamchatka is fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking of the fish and salting of the fish in vats and above all to processing in canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

world. The crabs are extraordinarily large and attain lengths of half a meter and more. They are drawn up from the bottom of the sea in drag nets in which they get entangled. Worthy of mention in this connection are the floating crab canning factories, which are used on the west coast and which carry out on board all the work from catching to canning.

The capital of the peninsula is Petropavlovsk. The city lies on Avacha Bay, which freezes over only exceptionally. The bay is surrounded in a semi-circle by the panorama of high volcanos. The city's favorable natural harbor, which a short while ago got a shipyard with a dock for ships of up to 5,000 gross registered tons, gains more and more in importance since the ships of the Northern Sea Route spend the winter here before they start out on their trip to the north. This applies especially to ships which regularly travel to the Kolyma River in order to ensure supplies of heavy materials to the gold regions on the upper course of the Kolyma. Petropavlovsk is the center of the hunting of sea animals and of the industries connected with this. In addition, the city also has fish processing installations, a brickyard, saw mills, and a can factory, which is of especial importance since it supplies the necessary material to all the smaller fish processing localities. In the treeless delta of the Kamchatka River lies Ust'-Kamchatsk, the next most important locality on the peninsula. More than 2,000 workers /302/ work in the canning factories there in the summer. The locality, in addition, has a special importance as the gateway to the interior of the peninsula, which can be reached easily only through the Kamchatka valley, while the other approaches have to overcome difficult passes. In increasing measure also wood is floated down the Kamchatka River to the coast, where it is processed in and sent on from Ust'-Kamchatka. In the broad longitudinal valley of the Kamchatka there are a series of villages, among which Verkhne Kamchatsk and Mil'kovo should be mentioned. In this area removed from the coast, horses are kept, since supplying fish food for dogs causes difficulties. At the inner entrance to the cross valley, at the foot of the largest volcano cone, lies the village of Klyuchi, from which the volcano receives its name. Here the traffic lines from the interior merge and make the locality into a central trading place, especially for fur goods. In addition to Russians and Koryak, some Chinese and Koreans have also settled here. Klyuchi has a scientific observatory for the study and special observation of the Klyuchevskaya Sopka. Below the village the Kamchatka widens into a sea decorated with islands.

241 to the cultivation of sugar beets; the area devoted to their cultivation has again increased in the Khanka Lake area. Tea is supposed to become a new product of the /Russian/ Far East. In 1950 /131/ the [242] Botanical Institute of Leningrad sent an expedition there in order to explore, by attempts at cultivation, the practical possibility of planting tea bushes.

241 433 All the reports mentioned above are only individual pictures of the agricultural film which is being run in the Far East. These pictures show the great strivings of the Soviet Union to use all its power to advance agriculture in these regions. If the grain harvest in the actual Far Eastern area had increased 150 percent in 1947 as compared with 1913 and the potato harvest had even increased 200 percent (Trud, 25 October 1947), this increase in production stands in contrast to an approximately 300 percent increase in population in the same period; accordingly even today the same problems still exist in supplying the population of this area with food, as has been described in the above chapter, since an additional population increase runs parallel to the increase in production, even though the two curves may perhaps have gotten somewhat closer since 1947. The actual Far Eastern regions (not including the Buryat Mongol ASSR and the Chita Oblast) can still be regarded even today as import areas in terms of food. Their dependence on obtaining supplies is alleviated by the increased cultivation of potatoes and soy beans, and import at present is no longer a problem since Manchuria with its agricultural surplus has been brought into the Soviet sphere.

Animal Breeding

231 433 In the livestock-breeding of the Soviet Union Transbaykal assumes a prominent position. While on the average there are 233 cattle to 1,000 persons in the Soviet republic, there are 1,367 cattle to 1,000 persons (1938/39) in the Buryat Mongol ASSR; and while there are 602 sheep and goats per 1,000 persons on the overall average in the USSR, there are here 1,786. The important livestock-breeding areas lie left [232] of the Selenga and right of the Ude. The breeding of better strains is being carried out according to plan by crossing the Mongol cattle with the Simmentaler and by crossing the native sheep with the Rambouillet-Merino. The steppe region left of the Selenga is thus the breeding ground for improved strains. The livestock here is housed for the winter in warm stalls and fed with prepared feed. The horse, which constitutes

connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

Soviet officials failed to understand that the reindeer plays a vital part in the life of the Northern tribesmen, and that it is not a mere subsidiary to their economy as is the cow of the Russian peasants. According to the tribal customs of the Koryaks and Chukchi it is a sin to sell a living reindeer. The Soviet administrators denounced this custom as sabotage, and imposed on the reindeer-breeders not only compulsory sales, but also the confiscation measures which accompany collectivization. The setting up of collective farms and state farms in the native territories of the Arctic regions of the Soviet Far East, led in the 'thirties' to the unleashing of a violent class struggle which, in turn, resulted in a drastic drop in the number of reindeer. Not only did the rich reindeer breeders engage in large scale 'predatory slaughter' of the animals, but they also hampered the collectivization and nationalization measures in other ways. To escape 'de-kulakization', they split their large herds into smaller ones, and distributed them among their shepherds. Moreover pastureland was wilfully destroyed, apparently on a considerable scale.

Loss of reindeer occurred not only in the private but also in the State-controlled sector. The new State farms which were to introduce higher forms of reindeer breeding were, in reality, far more inefficient than the individual reindeer breeding nomad. In the Far East the State reindeer farms lost one-third of their herds within a single year – a catastrophe which could not be attributed entirely to the infiltration of class-alien elements.

Official Soviet statistics about the development of Soviet Russia's reindeer population demonstrate convincingly what damage the collectivization measures caused. In the first years of the communist régime when state interference with the Far Northern economy was slight there was a clear upward trend. The number of reindeer in the entire Soviet Union increased from 1,765,000 in 1923 to 2,193,000 in 1926–27 and to 2,700,000 in 1931. The year 1931 was the turning point. In 1932 the stock fell to 2,333,000, in 1933 to 2,030,000 and in 1934 it was as low as 1,889,000. These figures which apply to Soviet Russia as a whole do not fully reveal the catastrophic consequences of communist reindeer policy in the Far East. In the Koryak National Area, for instance, where full collectivization had been planned for 1933, the number of reindeer decreased from 264,000 in 1926 to 173,000 in 1932 and 127,000 in 1934.[12]

Soviet statistical evidence about Russia's reindeer population after 1934 is contradictory. Figures produced by various official Soviet sources show a large margin of difference. The *Small Soviet Encyclopedia* says that on January 1st, 1938, the number of reindeer was 1,766,000.[13] This would mean that the situation was then even worse than in 1933. On the other hand, a Soviet standard work on Russian reindeer-breeding published in the post-war period claims that the number of reindeer in 1938 was 28 per cent higher than in 1933. But even this book which

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

233 474 gives an optimistic picture of the Russian reindeer situation states that a new period of decline set in during the war owing to the increased slaughter for the army and inferior care of the herds resulting from the mobilization of many native herdsmen.[14] After the war the position improved but whether and when the peak figure of 1931 was reached again, is impossible to say. Such increases in the number of reindeer as there were, were brought about, it seems, by a more liberal application of the collective farm statute. Collective farm members were encouraged to own small reindeer herds privately. The maximum size of these privately owned herds is not known but cases have been mentioned of individual collective farmers having as many as 80, 90, 130, and even up to 200 reindeer each.[15]

233 874 The reindeer problem has caused difficulties to Soviet administrators not only in the purely economic sphere but also in the field of education. What is needed in the Far North is a school which would help to raise hunting and reindeer breeding to a higher level. The more enlightened Russian pedagogues are the first to admit that such a school does not exist. One of the school inspectors posted to Northern Siberia quoted, not without a certain measure of approval, a reindeer breeder who refused for a long time to entrust his two sons to a Soviet boarding school. The father in question said that he taught his children to hunt game, to catch the polar fox and to ride reindeer. In school, he added, they would not learn all this, and when they had finished they would have no practical knowledge. An article in the *Teachers' Gazette* stated that there was a 'grain of truth' in the complaint of the old reindeer breeder. 'The school is indeed too much cut off from practice and thus not able to prepare children for the life in the Far North.'[16] A similar problem, it is true, also exists in other countries. Richard Finnie, in his book *Canada moves North*, says that Eskimo children, after spending years in boarding schools, return to their families unfitted for the lives they must lead.[17]

THE CULTURAL REVOLUTION

212 871 171 Whatever the quality of school education in the Russian Far North may be, it is a fact that the Soviet authorities have carried out a big cultural revolution in the native territories. The most important part of it has been the liquidation of illiteracy. Until 1931 the Far Northern and Far Eastern peoples could express themselves in writing only in the form of drawings or through the medium of the Russian language. In May, 1931, they received an alphabet of their own, the 'Unified Northern Alphabet' as it was called. It was officially approved by the Ministry of Education of the R.S.F.S.R. The 'Unified Northern Alphabet' was a Latin alphabet and the decision to adopt it was not taken without a long struggle fought out behind the scenes between the supporters of latiniza-

11.7 percent of all the livestock, and also the pig, which constitutes 6.7 percent, play a slight role in the animal economy. The situation of animal breeding in Chita Oblast is similar and has the same favorable perspectives. Dairy farming stands in the foreground here in cattle breeding. In the steppe regions of the Onon and Argun a number of studs also serve horse-breeding. In the same region camels are also bred, whose number is given at 7,000. Transbaykal as a whole is a surplus area both in grain cultivation and in animal breeding. 231 433 [234]

/132/ The following table indicates how very prominent the Buryat Mongol ASSR and Chita Oblast are in animal breeding in the overall economy of the Soviet Union:

On a collective farm in 1938 there were:

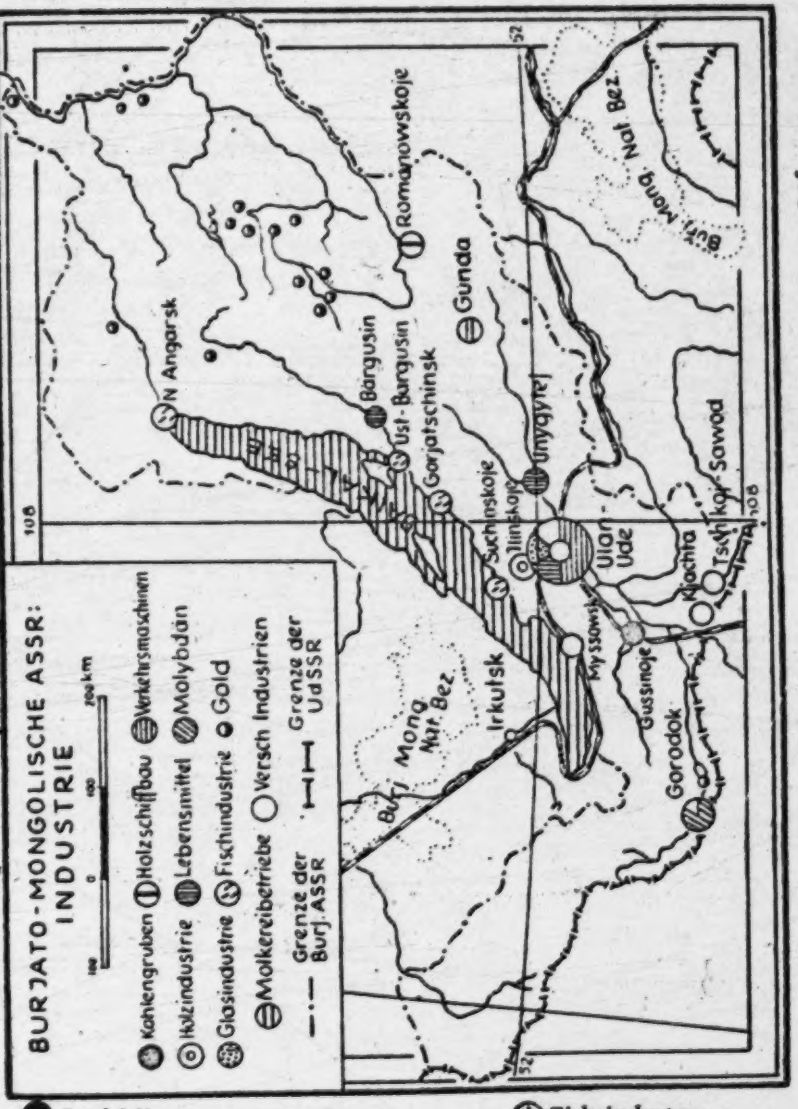
	Soviet Union	Buryat Mongol ASSR	Chita Oblast
Horses	0.7	2.0	2.5
Cattle	2.2	6.0	6.5
Sheep, goats	2.9	19.0	11.9

It is different in the Amur and Ussuri country. Animal breeding is insufficient and doesn't even cover the needs of the area. Even horses must be imported. In the southern part of the Ussuri region milk and work cattle are kept; otherwise a dairy cow farming worthy of mention has developed only in the vicinity of the cities. Meadowlands are lacking for the maintenance of cattle on a large scale. On the other hand cattle can be found in isolated cases everywhere, even in the far north. On Kamchatka their number reaches several thousand. The number of pigs in the Amur and Ussuri region is comparatively larger than in Transbaykal since the Chinese and Koreans also keep pigs. The quality, however, is low. In meat supplies, too, the Far Eastern region requires additional imports.

The reindeer breeding in the extreme northeast of the region deserves special attention. The moss tundra extending from the Chukchi Peninsula into Kamchatka offers excellent grazing land. With the European north, these regions stand in first place in reindeer breeding in the Soviet Union, which has contributed in its further development by establishing several reindeer sovkhoz. The number of animals is estimated at a total of approximately 750,000. The reindeer not only provides meat for local needs, but also provides meat for canning, for which a special factory has been erected in Anadyr'. The hides of

635
316
39
25
323
228
234

Sketch Map of the Buryat-Mongol ASSR: Industry:



- Coal Mines
- Construction of wooden ships
- Transport machinery
- Wood industry
- Groceries
- Molybdenum
- Glass industry
- Fish industry
- Gold
- Dairy plants
- Various industries

/215/

- Border of the Buryat ASSR
- Border of the USSR

Both types of steppes[1] have developed on chestnut-colored soil. Within these steppes salt-pans also appear. Further toward the north the soil becomes darker, its humus content becomes greater (3 percent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the foreground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the
361 name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000
[294] inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire
135 Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establish-
241 ment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is in-
• 234 fluenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large
[161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid
[39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking
[382] installation has been added to the older oil refinery in order to process
[508] the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there
[241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

167 361 estimated at 50,000–70,000 inhabitants. Official Soviet sources, while glossing over the strange origin of Magadan, have described it as an important cultural centre, including several houses of culture, dozens of clubs, cinemas, libraries, and two theatres, one for drama, the other for musical comedy. Former prisoners who passed through Magadan have asserted that the actors of the drama theatre were convicts, but Soviet sources of more recent date declare that they were recruited from Moscow drama schools. By December 1952, Magadan had grown large enough to deserve administrative promotion. A decree of the Presidium of the Supreme Soviet transformed it from a district town into a provincial town.[16]

Magadan is the largest locality which owes its existence to Dalstroy, but there are others further inland. One of them is Atka – a name which, at the first glance, seems to have an exotic Asiatic flavour, but is in reality an expression of the unromantic technological mind of Soviet Russia. It is simply an abbreviation of 'Avtotraktornaya Kolonna' (Motor Tractor Column), a tribute to the pioneer role of motorized transport in a territory without a railway. Even in 1946 Atka had large garages and automobile repair works where work never stopped, 'not even for a single minute'. Moreover, Atka produces electrical equipment for the purposes of Dalstroy.[17]

MILITARY COLONIZATION

167 729 ●241 Another interesting and unusual form of colonization introduced in the Soviet Far East is what might be described as 'military colonization'. Discharged soldiers of the Red Army, artillery and cavalrymen, infantry and members of the signal corps, as well as sailors of the Red Fleet, settled down with their families in the fertile border regions on the Ussuri River. These military colonists formed a kind of peasant militia ready to be called up at any time for the defence of the 'socialist fatherland'. The first 'Red Army' and 'Red Fleet' collective farms were formed in 1931. They soon became the pride of the entire Soviet Far East and the head of the administration of the F.E.T., Krutov, described them as a shining example for the entire Far Eastern peasantry.

Not all demobilized soldiers became agriculturists; some of them remained in the Far East as lumbermen and fishermen and many also worked on the Far Eastern railways, as has already been mentioned. At the beginning of 1938, 5,000 demobilized Red Army men were accepted into the service of railways. They were all provided with houses and small plots, and each of them received a government grant for the purchase of a cow.[18]

167 241 This last point is particularly characteristic of Soviet colonization policy in the Far East. To increase its defence potential in the Far

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

167 Eastern border areas the government made concessions even in the
241 economic sphere. In European Russia only collective farmers were at that time allowed to own a cow as their own personal possession, never industrial or transport workers.

KOMSOMOL COLONIZATION

167 The military colonization largely overlaps with another special form of
665 colonization in the Soviet Far East, which is carried out with the help
383 of the Communist Youth League, the Komsomol. The Youth League is the backbone of the Far Eastern units of the Soviet Army. Towards the end of the inter-war period 60 to 70 per cent of the soldiers in the Far East were Komsomol members. Hence among the demobilized soldiers, too, there must have been a good deal of 'Komsomol spirit'. The Komsomol influence in the Far East is, however, by no means confined to the army. The entire Soviet Far East has been described as a 'Komsomol Territory'. This is true both in the figurative and in the literal sense. The Soviet Far East is 'komsomolsky' because it is a young pioneer country, but the Komsomol, the Communist Youth League, is also directly connected with the Soviet Far East as one of the principal promoters of its colonization.

Many Communist Youth League members went to the Far East as individuals out of a spirit of adventure and also out of a feeling of patriotic duty. The Komsomol, as an organization, was responsible for two big spectacular actions. One was the foundation of the town Komsomolsk-on-Amur, the other was the movement initiated by Madame Khetagurova.

The history of Komsomolsk goes back to the spring of 1932 when the Central Committee of the Communist Youth League chartered two steamers, *Kolumb* and *Komintern*, which sailed with 400 young people, including a number of Civil War orphans, to the village of Permskoe on the Lower Amur. (The village had been founded as early as 1858 by Russian peasant colonists hailing from the region of Perm in the eastern part of European Russia.) Even the first small party of Komsomol members outnumbered the local population of 160 inhabi-
[361] tants. In the second half of 1932 many more young people arrived, and in December of the same year the All-Russian Executive Committee published a decree which transformed Permskoe into the town of Komsomolsk. The decree read well in the Moscow newspapers, but to the young builders of Komsomolsk it must have appeared utterly unrealistic. At the time when the decree was published they were in a state of despair. The building of the town had had to be interrupted in view of the harshness of the Russian Far Eastern winter, and the inexperience of the new settlers had resulted in great complications. During

strong inclination to marshiness are distinguishing marks for this area. The Sikhote-Alin' stretching parallel to the coast keeps back the coolness and also the fog from the sea and allows the sun to have a stronger effect. Everywhere the more southerly position makes itself apparent. In the forests of Sikhote-Alin' deciduous trees appear more and more in the foreground, increasing toward the south, until finally, in magnificent specimens, they form the sole type of tree. In the cultivated zone, too, which stretches along the entire lowlands, typically Manchurian-Chinese plants become noticeable in increasing measure toward the south. Kaoliang and other millet, soya beans, and rice appear noticeably on the scene. There is a change in the population, too. In the northern part of the lowlands, as far as Khanka Lake, Russians and Ukranians predominate; in the extreme south, Chinese and Koreans are in the majority. The Ussuri-Khanka lowland is relatively thickly settled, the Sikhote-Alin' itself, on the contrary, is in large areas as good as uninhabited, except for some mining areas in the south, where /31/ coal primarily is mined. Native Tungus traverse the Sikhote-Alin' in smaller numbers than in the old days, and in addition there are Russian hunters and Chinese collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional direction. The southern part is traversed by two parallel mountain ridges, which are separated from one another by a relatively wide depression. The eastern mountain chain is shorter but higher, and its peak of 2,013 meters is the highest elevation on the island. Toward the north the mountain ridges flatten out and give way to a hilly plain. The cool, foggy air masses blow unhampered over the land here, while in the south a difference in climate is caused by the mountain chains. The eastern slopes are cool, rainy and unfriendly, while the western side appears somewhat milder. The southern parts of the island, which were Japanese from 1905 to 1945 and only now have again become Russian , are generally more favorable. In terms of its landscape, Sakhalin can be designated a damp, cool, forested mountain country, but in numerous places treeless moss steppes appear, which recall the tundras of the north. Once feared as a Russian prisoners' colony, Sakhalin is advancing economically more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encompasses, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina Bay in the extreme northeast. In the western part, which stretches

132 within 24 hours. These conditions, especially the paths of the cyclones, have still not been clarified in detail. The real rain period does not begin until early in July and lasts until the end of August. During this period there is rarely a week without several days of rain.

In addition to the already mentioned downpours, rainfall also occurs in the form of land rains. A very characteristic type has been designated as "subsequent rain" /Nachfolgeregen/ by Arseniev. This occurs when after a storm the day is sunny and still, and then in the evening rain falls again because of the condensation of the rising, very high humidity.

The abundant rainfall of summer causes the rivers to swell, and their high water occasionally spills over the banks, and often interrupts all traffic. In many places the water cannot flow off right away. It remains standing on the level fields. Grass areas turn into swamps. In the low, broad plains on the left side of the Amur, above [312] Khabarovsk, plains which were supposed to have been won for agriculture to supply the rapidly growing city, a large-scale system of drainage canals had to be created, not only in order to drain the ground but also in order to give the rainfall an easier opportunity to drain.

132 The great dampness along with the great heat endangers and decreases
241 the harvest of European types of grain. The grain shoots into grass but the corn yield is slight. The sprouting of the plants suffers from the dryness, while the blooming, ripening, and harvesting fall in the rain period. In this the dampness of the ground /66/Climate Diagram: Ulan Ude; Chita/ also plays a role, for, according to many reports, the yield of the grain fields in the hilly country on the mountain ridges and slopes is higher than the yield of the fields in the valley areas. The softening of the ground by the summer rains makes the use of machinery difficult, and this appeared as a restraining factor in the establishment of the kolkhoz system and the MTS (Machine Tractor Stations). In part steps had to be taken toward the construction of new machines. On the other hand

132 the climate fosters the development of vermin and fungus. The corns
137 of grain are not uncommonly attacked by a spore fungus (Fusareum roseum), which makes the bread "pianyi," i.e. drunken, as the Russians say, because when eaten it has an intoxicating effect and causes nausea. Fruit is distinguished by richness in liquid but by a poverty of sugar. The Manchurian-Chinese cultivated plants and the natural native plant world thrive especially. Characteristic for the forests is a rich underwood, but the trees--and this applies especially to the deciduous trees--are very susceptible to disease, often becoming hollow with internal

/125/ THE ECONOMY

Agriculture

Among the various branches of the economy agriculture stood 162
in the foreground in 1938. Of the entire population 55.8 percent were attached to agriculture; the percentage of those in agriculture in the various regions was as follows:

	rural	urban
Buryat-Mongol ASSR	70 %	30 %
Chita Oblast	56 %	44 %
Khabarovsk Krai	55 %	45 %
Maritime Krai	49 %	51 %

In the interval these relationships have changed substantially. The increase in the total population up to 1950 was 35.6 percent, and the bulk of this was in the industrial sector; accordingly the urban, i.e., the industrial population has a majority today in the entire area of the Far East. Among the various regions the Buryat Mongol ASSR has retained its overwhelmingly agricultural character. The same can also be said of the Amur Oblast newly formed in 1948, though this cannot be verified in figures.

The natural conditions for agriculture are completely favorable 241
in the southern parts of the Far Eastern region. All of Transbaykal lies 132
within the 5° May isotherm, and the Amur Oblast is included in the main in the 10° May isotherm. The brief transition from winter to summer lengthens the vegetation period, which is generally sufficient here. The harsh winter, however, limits cultivation, and accordingly summer cultivation predominates. The rainfall causes difficulties. While a heavier rainfall could be desired for Transbaykal, the rainfall in the Amur and Ussuri regions exceeds the amount necessary, and this results in certain restrictions. The great dampness hampers the ripening of the grain in the fields and fosters the appearance of vermin. Water often remains standing on the flat fields and often leads to the rotting of the plants. Accordingly the Russians are forced to give up European 241
flat cultivation /Flachbau/ in favor of furrow cultivation /Furchenkultur/, in which the grain is sown on heaped up earth so that the water collects in the furrows in the ground and can there seep in or flow off /126/.

The method is used with success everywhere in the Far East by the

•241 Chinese. This method of cultivation, of course, demands more work, and the Russian clinging to his customary methods naturally struggles against it. With the beginning of collectivization the kolkhoz have employed specially constructed sowing machines which take these special conditions into account.

North of the Amur region the natural conditions for agriculture become more unfavorable. The reason for this, however, does not lie in the increasing coldness of the winter but rather above all in the shortening of the vegetation period. These regions, therefore, de-
[242] pend on cultivated plants which ripen quickly. In this connection the Soviet Union has attained successes worthy of recognition in the development of types which ripen quickly and in the use of special methods of preparing seeding (Yarovisation). The Soviet Union has succeeded in moving significantly farther to the north the outer limits for grain cultivation.

134 The earth in Transbaykal in the areas preponderantly covered by forests belongs predominantly to the podsol type; numerous varieties of earth have been formed which sometimes approach loamy soil, sometimes sandy soil, according to the clay content. In the river valleys marshy and semi-marshy soil is widely diffused. The vegetable mold content of the podsol soil is only slight, being 2 percent to 3 percent; in marshy soil, however, it is large, being 15 to 30 percent. In the forest steppe areas and in the steppes of Transbaykal the soil is relatively rich in vegetable mold. East of the Yablonovyy Ridge typical black earth has even developed as far as the Argum. Interesting is the fact that the various slopes of the same ridge often show a different soil profile which corresponds with the plant growth. The north and northwest slope is covered with taiga, under which typical podsol soils lie, while on the east and southeast slopes, which are taken up by loose collections of birches, there is little or hardly any podsol; indeed, according to its external signs it already passes over here into the dark chernozem type. In the Amur and Ussuri country podsol and marshy soils with all their transitional forms take up the greatest part of the land. The soil of the Zeya-Bureya lowland and of the Ussuri-Khanka depression--the principal agricultural areas--consists essentially of young, fruitful alluvial deposits. The dark color of the upper layer of soil, rich in vegetable mold, misleads one into designating it as chernozem, black earth, but in reality it is semi-marshy meadow soil with thick layers of vegetable mold. In the dry spots this soils does in fact recall the black earth in its physical

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The Development of the Area under Cultivation
in 1000 hectares

	Buryat-Mongol ASSR	Chita Oblast	Khabarovsk Oblast	Maritime Krai	Total
1913	191.6	287.2	471.4	201.3	1,171.5
1928	203.7	407.7	740.3	413.0	1,764.7
1938	386.7	592.1	580.8	318.3	1,877.9

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Among the plants cultivated, grain by far stands in first place in all four regions. In the Buryat-Mongol ASSR 90 percent and in Chita Oblast even 92 percent of all the area under cultivation (1938) was devoted to grain; and accordingly the two regions can be regarded as pronounced grain areas. In Khabarovsk Oblast the proportion devoted to grain is 75 percent and in the Maritime Krai it is 69 percent. As is appropriate to the climatic conditions, the cultivation of summer grain predominates. Winter seeding in all four regions together takes up only 27,500 hectares, which is 1.5 percent of the area under cultivation.

/128/ The Cultivation of Grain in 1938 in 1,000 Hectares

	Total Area Devoted to Grain	Winter Grain	Summer Grains: Wheat	Oats	Barley
Buryat-Mongol ASSR	348.8	10.8	133.2	84.9	14.7
Chita Oblast	543.0	6.4	275.4	167.1	31.8
Khabarovsk Oblast	446.0	0.8	242.4	177.6	2.5
Maritime Krai	276.0	9.5	88.3	82.6	6.0

The cultivation of little paying summer rye predominated in the Buryat-Mongol ASSR before 1914, but since then this has been displaced more and more by wheat. By 1938 wheat was at the top of the list of plants cultivated, having 40 percent of the cultivated land devoted to it, and only 27 percent of the agricultural land was devoted to summer rye. The cultivation of potatoes, vegetables, and feed for livestock was entirely lacking earlier, but at present it is being strongly pushed, and by 1938 it had already reached 6.2 percent. In the Chita Oblast the cultivation of wheat has increased considerably and has tripled since 1913. Having 46 percent of the land under cultivation, it comprises exactly half the land devoted to grain. By 1938 only 6.9 percent of the land was devoted to summer rye, which once

dominated. A comparatively large area--3.4 percent of the total--is devoted to buckwheat. In contrast to this monotonous one-sidedness of grain cultivation in Transbaykal, the agrarian picture in the Amur and Ussuri country is more lively and more varied. Here, too, however, grain cultivation predominates, having 75 percent of the area under cultivation in Khabarovsk Oblast and 69 percent in the Maritime Krai. The sunflower is heavily diffused in the Zeya-Bureya plain, despite its damp climate, and recalls the home fields of the Russians in Europe. In the Ussuri region corn, too, again comes into its right, while the sunflower appears not to flourish here. In addition there are two important East Asiatic oil plants which are represented fairly equally in the two regions: the soy bean and the Perilla. The soy bean, which has more than 80,000 hectares of land devoted to its cultivation (1938), is, with its content of 13 percent to 21 percent fat and 35 percent to 38 percent albumen, an extremely valuable product for human and animal nourishment and also for industrial use. Of special importance is the fact that the soy bean enriches the soil with nitrogen and thus raises the yield of the succeeding planting. The Perilla (Perilla arguta), which is related to the sesame, delivers an excellent technical oil. The areas devoted to its cultivation, which was 4,500 hectares in 1938, is being expanded in a planned fashion. In the southern part of the Ussuri region various types of millet are cultivated by Chinese colonists, while the Koreans often devote themselves to the cultivation of rice, which extends into the region of Khabarovsk. Of other technical cultivated plants, flax, hemp, and tobacco are represented in the Ussuri country. The cultivation of sugar beets has special importance; it was introduced after 1920 and has attained a fairly great diffusion in the area of Khanka Lake. The beets are processed in the sugar factories in /129/ Voroshilov (Nikol'sk-Ussuriyskiy) and already cover a large part of the sugar requirements of the Far Eastern region.

In the wide expanses of the north, agriculture is developed only sporadically and serves above all for self-supply. With the exception of on the Chukchi Peninsula, there are very often small gardens with beets, radishes, potatoes, etc., and less often with oats and barley near the settlements. Only Kamchatka has an agriculture worthy of mention; in 1938 it had around 2,800 hectares under cultivation.

Of the four adminstrative units, the Buryat Mongol ASSR and Chita are the only ones which attain a surplus of grain. Both are well on the way to becoming real granaries, but at present their production

241 is still not sufficient to cover the deficit of the two other regions.

Area Under Cultivation Per Person as of 1938

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	Total Area Under Cultivation in 1000 hectares	Area Under Cultivation Per Person in hectares	Total Area Devoted to Grain in 1000 hectares	Area Devoted to Grain Per Person in hectares
Soviet Union	136,943.1	0.80	102,411.0	0.60
Buryat-Mongol ASSR	386.7	0.71	348.0	0.65
Chita Oblast	592.1	0.51	543.0	0.47
Khabarovsk Oblast	580.8	0.41	446.0	0.31
Maritime Krai	318.3	0.35	216.0	0.24
Transbaykal and the Far Eastern Region	1,887.9	0.47	1,553.8	0.39

241 No statistics of equal worth are available for judging the development of agriculture from 1938 to the present, since no such statistics have been published since then. Instead a great number of bulletins from the Soviet press are on hand; but these contain only isolated data of a general type, or special reports from highly variable areas or even localities. It is difficult to form an overall picture from all these reports, but it is the only possibility of being able to get at least a glance at the development.

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Many reports speak of an immigration which benefits both the industrial and also the agricultural sector. Also the enlargement of the area under cultivation and the raising of production often form the subject of these reports, and in this the results of the last Five Year Plan, up to 1950, are especially emphasized. In the steppe regions of the Chita Oblast a beginning has been made in the introduction of artificial irrigation. As a beginning for this, numerous canals were dug in 1948 which irrigated 12,850 hectares. In the vicinity of the big cities the greatest attention /130/ has been devoted to the development of farming near the city and especially to garden farming. In the surroundings of Vladivostok the setting up of 1,560 hectares of garden area in 1948 was envisaged in the framework of a great plan. Also in the Khabarovsk area important wild areas are being converted into cultivated land so as to ensure the feeding of the growing city.

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Here in 1950 a Melioration Machine Station was erected, the first in the Krai, which is to be followed by seven others. Of great significance is the development of agriculture on the Kamchatka Peninsula. Before World War I, according to Soviet figures, the area under cultivation was 4 hectares; in 1938 it was 2,778 hectares. Since then it has further increased. In 1950 there were more than 10 kolkhoz. In 1952 a scientific expedition was sent out from Khabarovsk to Kamchatka to investigate and to prepare for the gaining of additional land for agriculture. In the same year two Melioration Machine Stations were erected, which in the next three years made nearly 40,000 hectares of swamp and taiga country available for agriculture. From Sakhalin, too, successes in the winning of new land were reported. Prominent is the fact that also the native population (Gilyak in the "Chir Unvd" Kolkhoz, i.e., "New Life Kolkhoz") has been used with success in agriculture. How quickly the agricultural occupation of southern Sakhalin has been carried out is indicated by two reports: in 1949 there were 33 kolkhoz there and 3 sovkhoz, and in 1950 there were already 69 collective farms.

The progressive mechanization and technicalization of agriculture constitutes a second important part of the content of the more recent reports. The number of Machine Tractor Stations (MTS) has increased in all regions. In the Buryat Mongol ASSR their number increased from 25 in 1937 to 36 in 1948; in Khabarovsk Krai they almost doubled in number from 1938 to 1947, when they numbered 76. In 1948, 25 Grass Mowing Machine Divisions were installed in the Buryat Mongol ASSR; and from 50,000 hectares of meadowland these Divisions were supposed to supply winter hay for the great kolkhoz, since the manual work force was not sufficient. In the Buryat Mongol ASSR the first agrarian city in the Soviet Far East was also established in 1950, and for this 400 two-story dwellings and 30 one-family houses were constructed. Remarkable, too, are the reports that special mowing threshers were used in harvesting the soy beans and the rice.

Among the plants whose cultivation has been especially fostered, soy beans and rice stand in first place. In 1949 there were 16,000 more tons of soy beans harvested than in 1948. With rice cultivation, on the other hand, progress seems to be made only slowly. In 1937 in the Far East 36,400 hectares were cultivated with rice, and, according to the last Five Year Plan, the area is to be increased to 37,000 hectares by 1950; this is very modest considering the fact that in 1913 there were 57,000 hectares of rice fields. Great attention is also devoted

●241 to the cultivation of sugar beets; the area devoted to their cultivation has again increased in the Khanka Lake area. Tea is supposed to become a new product of the /Russian/ Far East. In 1950 /131/ the [242] Botanical Institute of Leningrad sent an expedition there in order to explore, by attempts at cultivation, the practical possibility of planting tea bushes.

241 433 All the reports mentioned above are only individual pictures of the agricultural film which is being run in the Far East. These pictures show the great strivings of the Soviet Union to use all its power to advance agriculture in these regions. If the grain harvest in the actual Far Eastern area had increased 150 percent in 1947 as compared with 1913 and the potato harvest had even increased 200 percent (Trud, 25 October 1947), this increase in production stands in contrast to an approximately 300 percent increase in population in the same period; accordingly even today the same problems still exist in supplying the population of this area with food, as has been described in the above chapter, since an additional population increase runs parallel to the increase in production, even though the two curves may perhaps have gotten somewhat closer since 1947. The actual Far Eastern regions (not including the Buryat Mongol ASSR and the Chita Oblast) can still be regarded even today as import areas in terms of food. Their dependence on obtaining supplies is alleviated by the increased cultivation of potatoes and soy beans, and import at present is no longer a problem since Manchuria with its agricultural surplus has been brought into the Soviet sphere.

Animal Breeding

231 433 In the livestock-breeding of the Soviet Union Transbaykal assumes a prominent position. While on the average there are 233 cattle to 1,000 persons in the Soviet republic, there are 1,367 cattle to 1,000 persons (1938/39) in the Buryat Mongol ASSR; and while there are 602 sheep and goats per 1,000 persons on the overall average in the USSR, there are here 1,786. The important livestock-breeding areas lie left [232] of the Selenga and right of the Ude. The breeding of better strains is being carried out according to plan by crossing the Mongol cattle with the Simmentaler and by crossing the native sheep with the Rambouillet-Merino. The steppe region left of the Selenga is thus the breeding ground for improved strains. The livestock here is housed for the winter in warm stalls and fed with prepared feed. The horse, which constitutes

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soil. Within these steppes salt-pans also appear. Further toward the 137
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breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat 242
have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large 282
leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the fore- 241
ground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important 231
animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area 361
around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into [234]
being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge 133
of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

133 Side erosion predominates. Gradually the ridges dissolve into hills. This landscape, designated by Presnyakov as the Gobi type, takes up the entire southern part of the Argun region. Here are the mountain steppes of the Onon and Argun. The Tarey Basin, which is also designated as Onon plain by Russian geographers, should be named as the third province. The Tarey forms a basin with no outlets and extends beyond the Mongolian border as far as the Kerulen. In the center lie the Tarey lakes, of which various ones cover a significant area. Thus the Barun Tarey covers 435 square kilometers, and the Sun Tarey covers 300 square kilometers. The countryside is for the most part level and is interrupted only by former river valleys and lake basins which are now dry. The /228/ remaining lakes lie 60 to 70 meters below the general surface, i.e. at an absolute height of 620 meters, but they are always still up to 5 meters deep. Despite the clear signs of recent drying up, water springs appear in many places on the surface. These springs form the centers of human life. The steppe character often gives way already here to wasteland forms.

The border between steppe and forest extends from Aksha on the middle Onon via Il'inskaya to the north to the watershed between Aga and Ingoda, then on the Ingoda to the east to the mouth of the Aga. From here the border circumscribes the Argun mountain country in an arc swinging to the south via the localities of Onon-Borzya, Akatuy, and Algachi. The border then turns again toward the northeast via Nerchinskiy-Zavod to the Argun.

Southeast of Chita there begins the Aginsk steppe, a true grass steppe, which takes up the river area of the Aga and the middle Onon. [231] Here lies the national oblast of the Buryat, who have made the area into an important livestock-breeding region. The Argun steppe takes up the entire southeast, where livestock breeding likewise dominates the economy. But here there are Russians, who pursue the breeding of cattle and sheep in large, specialized, state farms. In addition, [241] there are also some state farms for horse breeding. To the north of both steppes agriculture, with wheat as the main product, is diffused over a large area, and in a broad front it penetrates to the south. [361] Along the great rivers and also along the Argun the villages extend in a line through the middle of the steppe. The diffusion of agriculture [134] is favored by the circumstance that, despite the often very poor steppe vegetation, a horizon very rich in humus, a type of black earth, has developed under the pitted grass /Grasnarbe/.

000 The wealth of natural resources is, however, of far greater

Region/. Pochvovedniie, 1911.

133 The northern part of the Zeya-Bureya plain lies generally below 500 meters above sea level and declines toward the lower Zeya and the Amur, /247/ /Sketch Map:/ /248/ where the greatest part lies at less than 200 meters above sea level. At Blagoveshchensk the Amur has a height of 120 meters. In individual places the substratum comes out from the flatly deposited Tertiary layers in the form of individual rocks, which consist of granite, Jurassic conglomerates and Jurassic sandstone, or also of porphyry.

The great dampness of the Zeya-Bureya plain, which arises from the excessive summer rainfall, leads in the unlevel regions to hanging landslips and solifluction phenomena of manifold types, which cause great difficulties in the construction of roads and installation of railroads, especially when--as, for example, in the country of mountain spurs--permafrost appears. The peasant fights constantly against threatening swampiness by draining his land. Despite these [311] difficulties, the area under cultivation is increasing continually. The swamps, which as a rule are covered with clusters of grass, are turned into hay fields by fires set off every year, and these hay fields in turn are then turned into cultivated land.

361 Settlement is very thick, and in the valley area of the Zeya, Selemdzha, and Bureya it penetrates farther and farther into the interior. In the plains one can often see from one village to the next one. The settlements differ in no respect from those in the Russian homeland. And when in mid-summer sunflower fields glow between the yellow gold of wheat fields, one might feel himself transported [214] to southern Russia. The cultivation of soy beans and perilla, which here lays claim to a significant percentage of the area under cultivation, [496] appears foreign, however. The railroad crosses the Zeya at Svobodnyy (10,000 inhabitants), where an active wood industry has developed. A branch railroad, which is 108 kilometers long, leads from Kuybyshevka with its more than 10,000 inhabitants to Blagoveshchensk (58,700 inhabitants), the capital of the region. The city extends along the shore of the Amur for a distance of almost 8 kilometers, toward the mouth of the Zeya. The Zeya here is 2 kilometers wide and exceeds even the Amur into which it flows. The city is the center of the entire agricultural area and has numerous flour and oil mills. In addition, the processing of lumber also plays a large role. The lumber is floated here on the Zeya and the Amur. Opposite Blagoveshchensk,

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the
361 name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000
[294] inhabitants (1939). Worthy of note is a large clothing and knitted goods
135 factory, which is the sole large installation of this type in the entire Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even
●241 in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation
234 of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large
[161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid
[39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking
[382] installation has been added to the older oil refinery in order to process
[508] the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there
[241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary, on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

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the Zeya and Bureya. Also the soil both in the Ussuri depression and also in the Khanka lowland is similar to that of the Amur prairies. Here, too, it is not black earth, as is still often reported; rather there is in the main muddy moor soil in the vicinity of the lake; this in turn is surrounded by a broad zone of semi-marshy meadow soil, and following then is weak podsol earth. The last two zones are cultivated almost everywhere, and the soil there can in every respect compare with black earth in terms of its yield. The zone of settlements, therefore, begins to the east and southeast of Khanka Lake but at some distance from the lake. If here, as in the Ussuri region, agriculture has to struggle with difficulties, the reason for this does not lie in the soil but rather in the climatic conditions, above all in the heavy summer rainfall. The winter is very cold and brings only a very thin covering of snow, and thus the ground freezes to great depths. Berg (27) states that at Voroshilov the ground freezes to a depth of up

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27. Berg, L.S., Landshaftno-geograficheskie Zony SSSR /The Landscape-Geographical Zones of the USSR/, (Moscow, 1931), Part I, 1. 372.

to 1.8 meters and at Grodekovo the frost even penetrates to depths of up to 2.4 meters. The planting of winter grain is, therefore, not advisable, nor is the planting of clover and lucerne advisable. The cultivation of winter crops is, therefore, always a risk. Further toward the south, in the Suyfun depression, winter rye is cultivated without danger. As a consequence of the deep penetration of the frost, the ground thaws out only late in the year. There is, however, no permafrost in the entire Ussuri region. The planting of summer wheat begins in mid-April to May, and the harvest begins in mid-August. Oats are sowed two weeks later, but are harvested at the same time as the wheat. The sowing of millet is done still later; the harvest, however, occurs only in the middle of September. The shortness of the time between the sowing and the maturity indicates the generally favorable conditions for the flourishing of the vegetation. The European types of grain suffer now under the dryness and under the strong winds during the sowing period, while during the summer they suffer from the great dampness, which makes fructification in the blooming period uncertain when it rains and which also endangers the maturing at harvest. All the better do the native cultivated plants /269/ flourish. With appropriate methods of cultivation European

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cultivated plants also flourish with great success. Very recently new sowing and cultivation machines have been employed by the Soviet in the entire Far Eastern region, which is damp in the summer. These machines take account of all the conditions of that area. In the expansion of the cultivated areas devoted to soy beans, rice, beans, millet, etc., it has been shown that there has been more conversion to these in more recent times, following natural conditions. The noxious fungus, which prefers to attack the European types of grain, such as wheat, barley, and oats, has already been pointed out. This grain disease occurs in those damp warm regions in especially rainy years. As Arved Schultz (181) has observed, it is very characteristic

181. Schultz, A. Das Ussuri-Land /The Ussuri Country/. Königsberg, Prussia, 1932.

that the fields of the Korean and Chinese peasants are attacked less than the fields of the Russians. There must, therefore, also be some reasons for this. In addition the fight against the Fusorien, of which a total of 22 types have been determined to date, has been taken up by the Soviet.

In contrast to the little populated eastern and southern sides of Khanka Lake, the Tertiary hilly country to the west of the lake is thickly populated and is among the best agricultural regions. A railroad line, which is 127 kilometers long, leads from the Ussuri Railroad into this region and ends right on the border in Turiy Rog at the northeastern end of the lake. On the eastern side of Khanka Lake, the cultivated zone, which continues from the north without interruption, follows the Ussuri Railroad in a broad line, and with broad spurs into the valley of the Daubikhe and Ulakhe, the cultivated zone also penetrates toward the east into the mountain range. South of the lake the cultivated zone takes up the entire area from the Manchurian border to the mountain spurs of the Sikhote-Alin' and extends in an area of almost equal width via the Suyfun depression toward the south to the coast, where on the west side of the Bay of Peter the Great it extends farthest to the south in the coastal plain.

The watershed between the Ussuri and the Suyfun is flat and scarcely makes an appearance morphologically. The Suyfun itself comes from Manchuria and crosses the border almost exactly at 44° latitude. Then it turns immediately toward the south to the sea. The valley area of the river is level and is accompanied on both sides

133 by a peaked series of hills, which are 50 to 100 meters high. However, individual hills all appear on the floor of the valley, from which they rise with very steep walls. Adjoining this area to the east is a gently rolling and irregular Tertiary hill country, which acts as a transition to the spurs of the Sikhote-Alin'. South of Khanka Lake and also in [137] the Suyfun depression numerous small oak forests have been preserved which give the picture of the landscape a varied and attractive impression. As a consequence of the good drainage the best agricultural land in the area is to be found in the Suyfun depression. But also in the Tertiary hill country agriculture is making good progress. Here are the /270/ most thickly populated sections of the Maritime Krai, in which, however, the entire region near the coast of the Bay of Peter the Great must be included.

563 342 •241 Great Russians above all are settling in the Ussuri depression. Their weathered, colorless log houses which are built of wood, are typical of the settlements in this area. Striking, however, in contrast to their homeland are the relatively flat roofs, which probably indicate the slight covering of snow which they have to bear here. Wheat, oats, and barley predominate in the appearance of their fields, but, in addition to corn, native plants, such as soy beans and perilla, are also appearing more and more. Ukrainians are the predominant settlers in the Khanka depression. As has already been indicated, this is based on historical reasons, since people from the Don above all were used in setting up the Ussuri Cossack formation of 1862. But it is still remarkable that it is Ukrainians who are in the majority in this almost treeless province. The bright color of their whitewashed mud houses dominates the settlements, and between the wheat fields corn comes strongly into the foreground. The Ukrainians here have also taken over for themselves the cultivation of sugar beets, just as they have in their homeland back in Europe. But, in addition, the yellow of the mud huts of the Chinese and Koreans also appears already in the individual settlements and in the village communities. These huts are often enclosed by the same mud walls; and in the flat, dammed-up fields there appears the light green of rice plantings, which are predominant in the damp area to the south of Khanka Lake. Further in the south toward the coast there is no longer a clear separation, but along the coast the Koreans increase. They often dress like Russians, but still they are more often dressed in the traditional white of the native clothing.

The breeding of livestock is pursued in the entire area: cows,

The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

Sketch Map:

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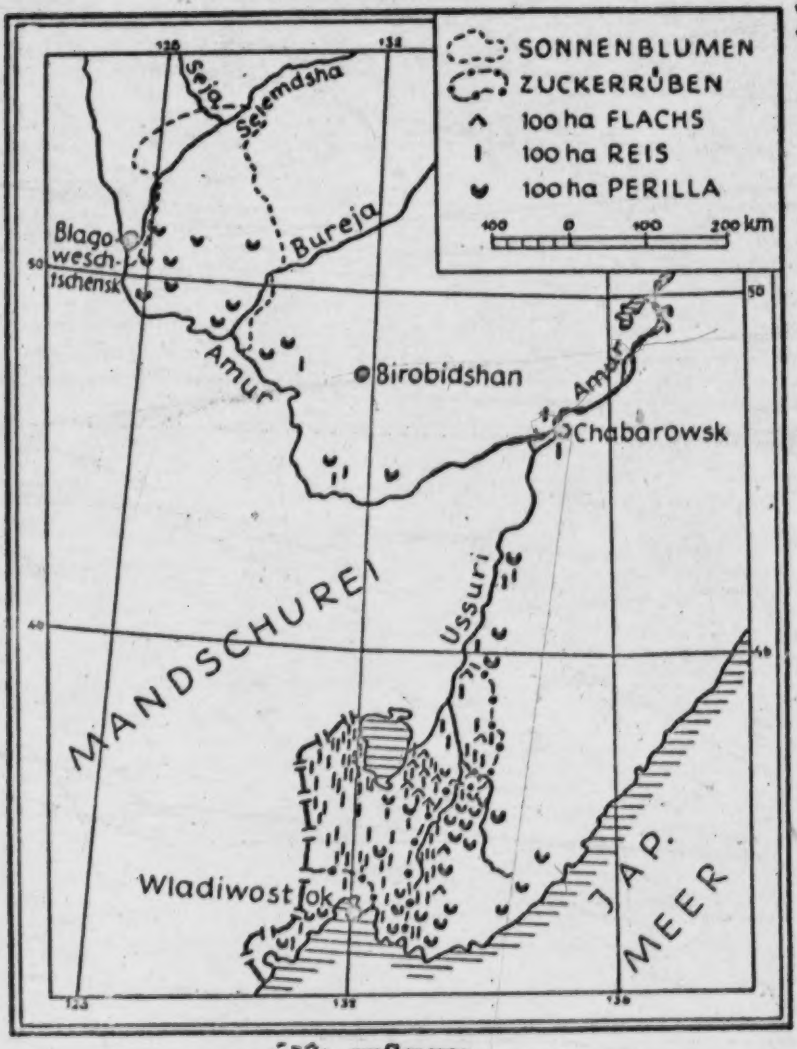

sunflowers
sugar beets
100 hectares of flax
100 hectares of rice
100 hectares of perilla

/271/

ships and indeed in many instances make departure impossible. From Ayan a route starts toward Yakutsk. This route rises steeply over the mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an important fish collection point. On the coast and also in the hinterland of the depression, numerous Russians have settled. In addition to an agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities engaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

Of greatest importance for the economy of Kamchatka is fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking of the fish and salting of the fish in vats and above all to processing in canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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1. Aziatskaia Rossiia /Asiatic Russia/. Collection, processed by the

are known regarding the total prisoner population, one thing is certain and that is that the entire Magadan enterprise is on a very large scale and that prisoners form the greatest majority of workers. Due to the fact that three known prisoner ships which were operating in 1940, the "Felix Dzherzhinskiy," "Uritsky," and "Dzhurma," are still plying the same Vladivostok-Magadan route, it is a reasonable assumption that the prisoner traffic is continuing. (Note: It is difficult to assume that these ships have changed the nature of their cargo inasmuch as it is definitely known that the holds of these ships were constructed in a special manner to transport large numbers of prisoners; although it is admittedly possible to change the internal structure of these three ships, it is dubious that this has been done, because it is known from reports from Radio Magadan that activities are being expanded throughout the Kolyma economy. Since the death rate has been so high in the past among prisoners, it is difficult to see how further development of the region could be undertaken without importing further number of prisoners every year.)

8) The City of Magadan: One of the results of Berzin's administration was the construction of the city of Magadan; by 1941 the population of this city had been estimated at approximately 70,000, composed of NVD officials and hired specialists who volunteered for service under the Dalstroy administration. It was further estimated that at that time there were some 50,000 such specialists scattered throughout the region. Another section of the population in the Magadan area, numbering a few thousands, was represented by exiles, mostly highly qualified experts whose work in Dalstroy had entitled them to some special privileges, although they are still subject to the NVD. Outside of the city of Magadan there were several big camps for prisoners with fluctuating populations.

The central streets of the city were lined with two- and three story houses. Electricity was provided by a power station which also supplied electricity to the taiga areas by means of wires strung over the surrounding mountain ridges.

The population of Magadan faced a problem in the procurement of foodstuffs. In an effort to relieve this situation, "Magadan has a large experimental farm equipped with hothouses. The latter already (1941) grew 'Kolyma' apples, pears, peaches, and even oranges, not to mention a variety of berries, while all kinds of vegetables are developed in the hotbeds, including cucumbers, cabbage, eggplant, muskmelon, and watermelon."[12] The chief problem in the attempts at agriculture was the geological ice. Repeated deep plowing of the soil, the use of fertilizer in great quantities, and similar measures have been used in scientific experiments and have achieved good results. Thus, in some places the ice formerly came to within one to two feet from the surface of the ground, but it has been pushed down to six or eight feet, which has made possible the cultivation of cereals. (Note: Agriculture in Magadan and the entire Kolyma region will be treated in a subsequent report.)

9) Summation: The entire Kolyma region is growing in importance constantly, and due to the produce obtained from this area, in addition to the increasing population, Magadan and the hinterland cannot be ignored or treated lightly. There are two general aspects of the Kolyma region which should be noted:

1) In the New York Times of 9 January 1946, it was reported that there is total gold supply in Moscow of between the wide range of two and ten billion dollars. The interesting aspect of this surmise is the fact that in 1925 or even in 1930 the Soviet government was forced to sell the treasures of Russian museums in order to pay for machinery that it had purchased abroad. Soviet gold has made its appearance only

12 Dallin, op. cit., p. 133.

241 Chinese. This method of cultivation, of course, demands more work, and the Russian clinging to his customary methods naturally struggles against it. With the beginning of collectivization the kolkhoz have employed specially constructed sowing machines which take these special conditions into account.

North of the Amur region the natural conditions for agriculture become more unfavorable. The reason for this, however, does not lie in the increasing coldness of the winter but rather above all in the shortening of the vegetation period. These regions, therefore, de-
●[242] pend on cultivated plants which ripen quickly. In this connection the Soviet Union has attained successes worthy of recognition in the development of types which ripen quickly and in the use of special methods of preparing seeding (Yarovisation). The Soviet Union has succeeded in moving significantly farther to the north the outer limits for grain cultivation.

134 The earth in Transbaykal in the areas preponderantly covered by forests belongs predominantly to the podsol type; numerous varieties of earth have been formed which sometimes approach loamy soil, sometimes sandy soil, according to the clay content. In the river valleys marshy and semi-marshy soil is widely diffused. The vegetable mold content of the podsol soil is only slight, being 2 percent to 3 percent; in marshy soil, however, it is large, being 15 to 30 percent. In the forest steppe areas and in the steppes of Transbaykal the soil is relatively rich in vegetable mold. East of the Yablonovyy Ridge typical black earth has even developed as far as the Argun. Interesting is the fact that the various slopes of the same ridge often show a different soil profile which corresponds with the plant growth. The north and northwest slope is covered with taiga, under which typical podsol soils lie, while on the east and southeast slopes, which are taken up by loose collections of birches, there is little or hardly any podsol; indeed, according to its external signs it already passes over here into the dark chernozem type. In the Amur and Ussuri country podsol and marshy soils with all their transitional forms take up the greatest part of the land. The soil of the Zeya-Bureya lowland and of the Ussuri-Khanka depression--the principal agricultural areas--consists essentially of young, fruitful alluvial deposits. The dark color of the upper layer of soil, rich in vegetable mold, misleads one into designating it as chernozem, black earth, but in reality it is semi-marshy meadow soil with thick layers of vegetable mold. In the dry spots this soils does in fact recall the black earth in its physical

241 to the cultivation of sugar beets; the area devoted to their cultivation has again increased in the Khanka Lake area. Tea is supposed to become a new product of the /Russian/ Far East. In 1950 /131/ the [242] Botanical Institute of Leningrad sent an expedition there in order to explore, by attempts at cultivation, the practical possibility of planting tea bushes.

241 433 All the reports mentioned above are only individual pictures of the agricultural film which is being run in the Far East. These pictures show the great strivings of the Soviet Union to use all its power to advance agriculture in these regions. If the grain harvest in the actual Far Eastern area had increased 150 percent in 1947 as compared with 1913 and the potato harvest had even increased 200 percent (Trud, 25 October 1947), this increase in production stands in contrast to an approximately 300 percent increase in population in the same period; accordingly even today the same problems still exist in supplying the population of this area with food, as has been described in the above chapter, since an additional population increase runs parallel to the increase in production, even though the two curves may perhaps have gotten somewhat closer since 1947. The actual Far Eastern regions (not including the Buryat Mongol ASSR and the Chita Oblast) can still be regarded even today as import areas in terms of food. Their dependence on obtaining supplies is alleviated by the increased cultivation of potatoes and soy beans, and import at present is no longer a problem since Manchuria with its agricultural surplus has been brought into the Soviet sphere.

Animal Breeding

231 433 In the livestock-breeding of the Soviet Union Transbaykal assumes a prominent position. While on the average there are 233 cattle to 1,000 persons in the Soviet republic, there are 1,367 cattle to 1,000 persons (1938/39) in the Buryat Mongol ASSR; and while there are 602 sheep and goats per 1,000 persons on the overall average in the USSR, there are here 1,786. The important livestock-breeding areas lie left [232] of the Selenga and right of the Ude. The breeding of better strains is being carried out according to plan by crossing the Mongol cattle with the Simmentaler and by crossing the native sheep with the Rambouillet-Merino. The steppe region left of the Selenga is thus the breeding ground for improved strains. The livestock here is housed for the winter in warm stalls and fed with prepared feed. The horse, which constitutes

Both types of steppes[1] have developed on chestnut-colored soil. Within these steppes salt-pans also appear. Further toward the north the soil becomes darker, its humus content becomes greater (3 percent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the foreground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

cultivated plants also flourish with great success. Very recently new sowing and cultivation machines have been employed by the Soviet in the entire Far Eastern region, which is damp in the summer. These machines take account of all the conditions of that area. In the expansion of the cultivated areas devoted to soy beans, rice, beans, millet, etc., it has been shown that there has been more conversion to these in more recent times, following natural conditions. The noxious fungus, which prefers to attack the European types of grain, such as wheat, barley, and oats, has already been pointed out. This grain disease occurs in those damp warm regions in especially rainy years. As Arved Schultz (181) has observed, it is very characteristic

181. Schultz, A. Das Ussuri-Land /The Ussuri Country/. Königsberg, Prussia, 1932.

that the fields of the Korean and Chinese peasants are attacked less than the fields of the Russians. There must, therefore, also be some reasons for this. In addition the fight against the Fusorien, of which a total of 22 types have been determined to date, has been taken up by the Soviet.

In contrast to the little populated eastern and southern sides of Khanka Lake, the Tertiary hilly country to the west of the lake is thickly populated and is among the best agricultural regions. A railroad line, which is 127 kilometers long, leads from the Ussuri Railroad into this region and ends right on the border in Turiy Rog at the northeastern end of the lake. On the eastern side of Khanka Lake, the cultivated zone, which continues from the north without interruption, follows the Ussuri Railroad in a broad line, and with broad spurs into the valley of the Daubikhe and Ulakhe, the cultivated zone also penetrates toward the east into the mountain range. South of the lake the cultivated zone takes up the entire area from the Manchurian border to the mountain spurs of the Sikhote-Alin' and extends in an area of almost equal width via the Suyfun depression toward the south to the coast, where on the west side of the Bay of Peter the Great it extends farthest to the south in the coastal plain.

The watershed between the Ussuri and the Suyfun is flat and scarcely makes an appearance morphologically. The Suyfun itself comes from Manchuria and crosses the border almost exactly at 44° latitude. Then it turns immediately toward the south to the sea. The valley area of the river is level and is accompanied on both sides

113, 185, 243, 311

Siberia RR1

[For a discussion of the Soviet agricultural program announced in the spring of 1954 to add some 70 million acres to the area of grain cultivation in western Siberia and northern Kazakhstan, see 75: Jackson, R1 Soviet Union, entire source.]

133 "golets"), which means the same as "baldy" or "bald-head." These goltsy, which appear in Transbaykal only in individual instances, are extremely typical for all mountain areas in the Far Eastern region.

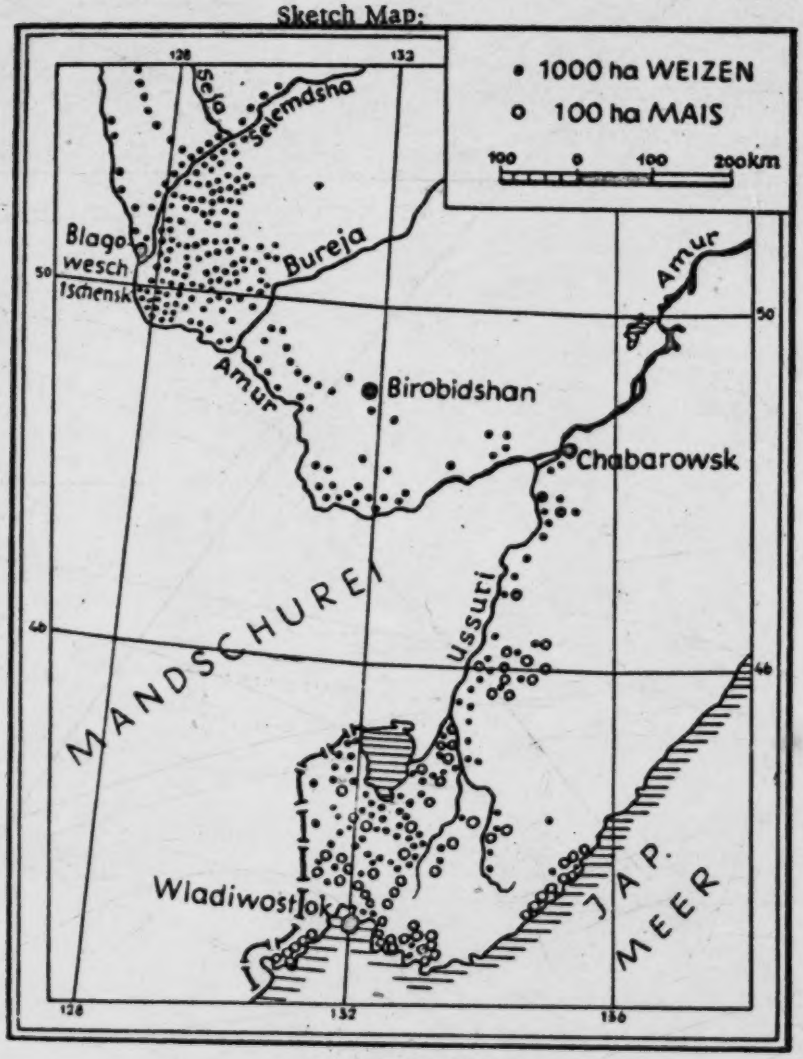
101 Culturally, too, Transbaykal has to a remarkable degree a
311 transitional character. The steppe regions, the steppe valleys, and the steppe islands have since time immemorial been the seat of nomadic cattle-breeders, in this case the Buryat, an intelligent and energetic tribe of Mongols, who have kept themselves on the steppes which suit their nature and culture. It is interesting to determine how exactly their expansion even today coincides with their natural landscape. The Buryat penetrate only rarely into the forest areas; more often they leave these to the forest peoples of the Tungus, who even today live there still as hunters and reindeer breeders. The Buryat were the first people to give successful resistance for a time to the invading Cossacks, but as nomads they later had to clear the field for the Russians who were seeping in slowly and pursuing agriculture. Buryat helped themselves, however, by adjusting: they often went over to agriculture themselves, and they appropriated for themselves the advantages of Russian culture. Thus, even though they were penetrated by Russians, they were able to retain their original regions and to attain a cultural level which raised them above all their Mongolian tribal brothers on the other side of the Soviet Russian border. Because of the invasion by the Russians, there came into existence here a cultivated landscape which was inserted between the completely forested areas in the north and the pure steppes in the south; but corresponding to the spacious transition region, this cultivated landscape did not appear in a closed-off zone, but in culture islands. In extensive regions in the south near the border, the Buryat even today still lead their old nomadic, cattle-breeding life.

132 The fact that the bulk of the rainfall occurs in the summer is favorable for agriculture. Chita, lying in the middle of the land, has an annual rainfall of only 319 millimeters. However, 289 millimeters of this falls during the vegetation period so that a relatively sufficient
• E243 amount of dampness is available, in conjunction with continental warmth, to make possible a very high yield of summer wheat. This makes Transbaykal an important wheat producer and the principal supplier for all of east Siberia.

133 The Amur country is adjacent to Transbaykal, without a clear border, north of the northern arc of the Amur. In its large morphological traits it is no less varied than Transbaykal, though the differences in

Sketch Map:

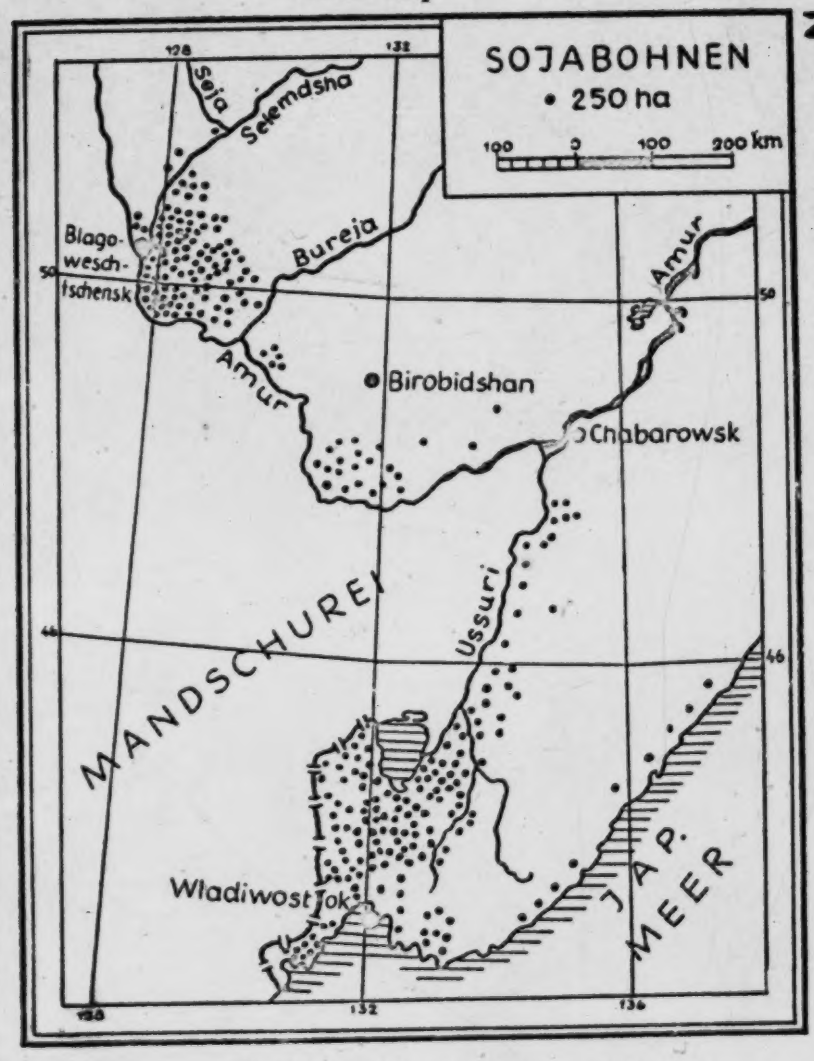
243



• 1,000 hectares of wheat
o 100 hectares of corn

Sketch Map

244●



● Cultivation of Soya bean Plants

137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 162 231 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 162 The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining, then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population here is more agricultural. In general, however, the agrarian economy 433 is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On • 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

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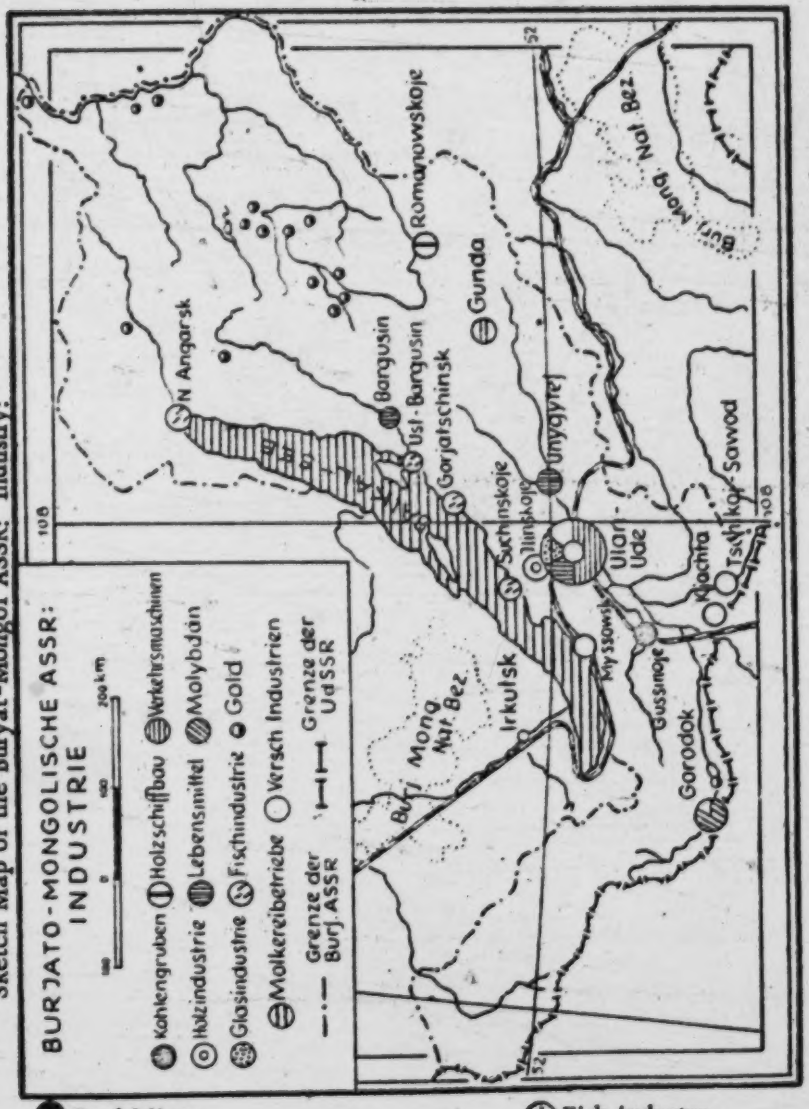
Sketch Map of the Buryat-Mongol ASSR: Industry:



Coal Mines
Construction of wooden ships
Transport machinery
Wood industry
Groceries
Molybdenum
Glass industry
Fish industry
Gold
Dairy plants
Various industries

215

Border of the Buryat ASSR
Border of the USSR

when the Kamchadal, Eskimo 101 563

salmon run begins, festivals of joy and work begin for young and old. As a rule the fish are caught in fixed traps, which are drawn across the river so that the way is barred for the fish as they go upstream. The fish press together in great masses in front of this weir and are caught with simple scoop nets. The common drying place is never empty, for it is important to preserve as many fish as possible for the entire year by drying them. In addition, an older method is still used occasionally: the fish are buried in the earth and there becomes sour; hence there is a kind of fish silo from which fish can be fetched during the winter as needed. A penetrating fish smell fills the entire settlement, and there is no end to eating during the catching season. It is not too much to say that the Kamchadal live on fish and tea. The dog, the most important domestic animal and beast of burden for all sedentary native northeast Siberians, is also fed on fish. The number of dogs is considered as the mark of wealth. There are families which have 200 to 300 dogs, which are housed in a pen near the house and fill the entire region with their hoarse barking. It is inadvisable for strangers to go near these half-wild animals. At present the horse is spreading more and more and is beginning to displace the dog as the beast of burden. Through the state organization of fishing and the introduction of modern methods, large sections of the Koryak have also been incorporated and placed in a new order. Many have also turned to agriculture and cattle-breeding.

[226] [251] [231]

/111/ The Asiatic Eskimo live on the banks of Bering Strait and occupy 17 villages with approximately 1,600 people. They extended much further formerly; and it is for this reason that there are Eskimo names for places now occupied by Maritime Chukchee. The displacement of the Eskimo must have been done simply by force, for the sagas of the Chukchee are filled with reports of hard battles with the Eskimo, battles which, however, ended long before the entrance of the Russians. Today the two peoples live harmoniously beside one another in separate villages. The Asiatic Eskimo differ from their relatives in Alaska in their speech but culturally they form a unit with them. With their life completely directed toward the sea, they seldom go into the interior of the land; for such occasions they use dog sleds. On the Commander Islands live approximately 500 Aleut, who, according to their language, are related to the Eskimo. They, too, live completely from catching sea animals, since the islands offer them only birds.

[174]

As has already been said, the Buryat Mongols have a cultural

167 into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier [241] had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, 231 the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities en- 241 gaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding 664 their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

Of greatest importance for the economy of Kamchatka is 228 fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at [251] the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking of the fish and salting of the fish in vats and above all to processing in [255] canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

this city almost 25 percent of the total population of the Buryat-Mongol ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole Far East. Supported by the Buryat's important breeding of livestock, the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a railroad, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak (Chinese: Maimachen). This overland route, expanded into an automobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

deposits can be reckoned among the richest in the Soviet Union. Thus, [133] here in the middle of a remote wasteland a small industrial area has [361] come into being, whose center is the town of Gorodok and which already has more than 10,000 inhabitants. The center is a large wolfram- [316] molybdenum works with modern mines, ore dressing installations, conveying and suspension railroads. The valley slopes here are still grown over by thick taiga. However, toward the east the forest withdraws from the lower slopes, which appear far from one another and form an extensive grass steppe area, which merges with the Selenga steppe without interruption. The valley of the Dzhida is bordered on the south by the Dzhidinskiy Mountain Range named after the river. The Mongolian border runs along the watershed of this mountain range.

The Khamar-Daban continues toward the east with dimensions which become smaller morphologically and geologically. However, the Selenga, which breaks through the mountain in a narrow valley, is usually considered to be the eastern border of the Khamar-Daban. The Selenga circumscribes the eastern part of the Khamar-Daban and empties into Lake Baykal in a broadly projecting delta.

/213/ /Sketch Map of the Buryat-Mongol ASSR:/

/214/ The Selenga Delta is a heaped up plain /Aufschüttungsebene/, which on the mean lies 7 to 8 meters above the water level of Lake Baykal, to which the delta slopes in terraces. The lower terrace, which already bears sea deposits, is completely flat, while the remaining parts are gently rolling. The northeast, the real present-day delta, is traversed by numerous dead and living arms of the Selenga, while the southwest is flowed through by some tiny little rivers, which come directly from the Khamar-Daban. In terms of its landscape, the delta represents a dry steppe, in whose lower, sunken-in parts swamps are imbedded. The delta is fairly heavily populated by Russians and Buryat, who pursue both fishing and agriculture. Irrigation is used in the agriculture. The [261] center of this area is Kabansk, where the railroad coming from the west touches the Selenga for the first time. The products of the fishing are [264] stored here in modern cold storage installations and made ready to be transported away.[1]

From here the railroad uses the valley of the Selenga and reaches [361] Ulan-Ude, the capital of the Buryat Republic, above the break-through by the Khamar-Daban. The city lies on the right bank of the Selenga at the mouth of the Uda, which is navigable by rafts. In 1926 still a small, dusty steppe town with 29,918 inhabitants, Ulan-Ude by 1939 had become a modern industrial city with 129,419 inhabitants. In

[1] [i.e. Kabansk -- Analyst]

231
133 the young reindeer are processed for leather and as wild leather (chamois leather) are a product in demand for export.

Hunting

224 The valuable fur-bearing animals, once so numerous, have almost completely disappeared from the settled areas and have withdrawn into the inaccessible wastelands. And, nevertheless, the Far Eastern region with its vast, wild forests is still, even today, a grateful empire of hunters. Approximately a third of the furs acquired in the Soviet Union are won in the Far East. Transbaykal is not so active in this. Squirrels and foxes provide the bulk of the skins ; the sable has been completely exterminated in wide stretches of land and is now only rarely encountered. In the tundra region the Polar fox is the most important animal hunted. /133/ The number of large wild animals has also been heavily decimated by the earlier rapacious hunting. The spotted stag /Fleckenhirsch/, sought because of its "Panten" /unhardened antlers/ and formerly very numerous in the Amur and Ussuri region, occurs now only very rarely in the open hunting ground and is kept today only in animal parks in the Sikhote-Alin'; of these seven are known with several thousand stags. For the protection of the plant and animal world rather large areas in the Sikhote-Alin', on Kamchatka, and on Lake Baykal have been declared nature protection areas.

Hunting for fur-bearing animals is organized by the state and is done from numerous "bases, " where the hunter receives not only his hunting equipment but also other necessities of life, and then goes out to hunt in cadres. In their hunting, these state hunters have to follow fixed instructions, varying from place to place, for the sparing and preservation of the wild life. At the end of the hunting period the skins are delivered to the bases, and the hunter is paid according to his output.

Fishing and Hunting of Sea Animals

226 In Transbaykal, which lies inland, fishing has only a subordinate role. Apart from small lakes, which are, however, rich in fish, the fishing practised professionally is concentrated on Lake Baykal. Its outstanding fish is the omul (Coregonus omul Pall.), a type of salmon, [255] whose spawn is bred and set out. Some fish canning factories in various localities on the coast process the catch not used locally. Not insignicant

228 The total catch from sea fishing in the USSR in 1938 was 1,490,000 tons, of which the Far East contributed 25.2 percent, followed by the Volga-Caspian area with 23 percent. A total catch of 2.2 million tons was planned for 1950. On the whole it was filled only by 96 percent, while the Far East overfilled its quota by 50 percent. Accordingly the Far East's percentage of the total catch of the Soviet Union has grown still more. More exact figures on the individual regions have not been published. A total catch of 3,476,000 tons is planned for 1955 for the Soviet Russian sea fishing industry.

In evaluating the catch of the various areas, however, it must be taken into consideration that in the Far East especially valuable types of salmon constitute the bulk of the catch. Furthermore it should be brought up that because of its small population and therefore its own low requirements, the Far East belongs to the most important surplus area. As a consequence of this development an active fish industry has come into being here. All the larger places on the coast
● [255] have cold-storage houses. However, there has been a special rise in fish canning factories, whose number has risen from 2 in 1913 to 42 in 1938. At the same time in connection with these, factory installations have been created which produce on the spot the necessary requirement of cans. In addition there are special ships which process the catch right on board. In this connection the ships for catching crabs/shrimp should be mentioned; these ships can be described as floating canning factories. Their work area is the /135/ west coast of Kamchakta. In catch of crabs/shrimp the Far Eastern region has first place in the world.

The coastal area on the Sea of Japan from the Korean border to the Tatar Strait constitutes the most southerly fishing district. Here herring and sardine fishing stand in the foreground. Fishing is done above all in the bays, with the richest catches coming from the Bay of Peter the Great. The center of this and the processing point is Vladivostok, which has a modernly equipped canning industry. In the years before 1938 the catch of herring went in part to the interior and in part to Japan.

The area around the lower course of the Amur constitutes the second fishing district. This great river serves as preferred spawning ground especially for two of the Pacific types of salmon: the beloved Keta salmon (Oncorhynchus Keta Walb), which provides red caviar and is called dog salmon by the Americans; and the somewhat smaller gorbusha (humpback salmon, Oncorhunchus gorbusha Walb). There

339 factories newly created in Komsomolsk, Khabarovsk, and Londoko in Birobidzhan shows. The last-named cement plant has very recently been expanded into the largest such plant in the Far Eastern region next to the plant at Spassk. For the supplying of Transbaykal a cement plant has been newly erected in Temlyuy, 98 kilometers west of Ulan-Ude.

288 In light industry, a new cloth factory in Ulan-Ude is worth mentioning. It was moved here in 1941 and since then it has been so greatly expanded that it delivers several million meters of cloth a year. It is the first cloth factory in the Far Eastern regions. In Birobidzhan there is an important plant in the clothing and knitting goods industry; Khabarovsk and Vladivostok have additional large undertakings in the manufacture of ready-made clothing. In the fu
295 goods and leather industry there are two outstanding central points t be mentioned, both of which are in Transbaykal: Chita with the largest fur and leather works in the Far Eastern regions; and Chikoyskiy Zavod, which lies east of Kyakhta on the river of the same name, which draws its raw materials from the Mongolian People's Republic. The production of Chita alone is sufficient to supply all of east Siberia with furs and leather. Shoe and other leather goods factories exist in various places. The shoe factories produce approximately 3 million
323 pairs a year. Only one plant--although, to be sure, one of large dimensions--is available to supply a large part of the Far Eastern regions with glass, glass goods, crockery, and porcelain. This plant lies in Ulan-Ude and represents the largest glass and glass goods factory in Siberia. In addition to window and mirror glass, it also supplies special glass for special purposes. According to the projected capacity it is supposed to be in a position to deliver 14,000 tons of plate glass and 6,000 tons of mirror glass. Ulan-Ude is responsible for supplying all of east Siberia with glass. Mention has already been made of the glass factory in Magadan. A smaller factory is supposed to still exist in the Vladivostok area.

256 The food and luxuries industry is represented by numerous small plants in the agricultural regions. Khabarovsk, Svobodnyy, and Blagoveshchensk have large mills. The first two have a processing capacity of 200 tons of grain per day; the Blagoveshchensk mill is supposed to be even bigger. The large bread and other baked goods plants, which are typical of Soviet cities, are also to be encountered here.
• 255 Khabarovsk has the most important installations of this type. The surplus of meat produced in Transbaykal are processed into preserved products and canned goods in the two meat plants in Ulan-Ude and in Chita.

133

(Captions to Map on page 235)

1. Baykal Daur
2. Nerchinsk Daur
3. Vitim Plateau and the northern mountain forest provinces
4. Olekma mountain country and the Olekminsk Stanovik
5. Oldoy-Zeya mountain country
6. Zeya-Bureya plain
7. Bureya mountain country
8. Amur plain
9. Sikhote-Alin'
10. Ussuri-Khanka depression
11. Sakhalin Island
12. Area of the Amgun and the Uda
13. Okhotsk coastal area
14. Provinces of the extreme northeast
15. Kamchatka Peninsula

responsible for 32 percent. On the Transbaykal side, in the area of 228
the Buryat-Mongol ASSR, approximately 30,000 double centner of
fish are caught annually; in good years even more than 35,000 double
centners of fish are caught. Thus a series of fishing settlements animate
the Transbaykal shore. The most important are Nizhne-Angarsk, 361
which lies on the extreme north east tip, Ust'-Barguzin at the mouth [255] •
of the river of the same name, where there is also a fish canning
factory, and, south of this, Goryachinsk, which in addition to fishing [312]
is acquiring a growing importance as a health resort because of its hot
springs.

Baykal Daur

Baykal Daur begins in the west with the Khamar-Daban. This 133
mighty mountain massif, projecting up to 2,217 meters, follows the
southern shore of Lake Baykal. Along this shore, runs the railroad
which encircles Lake Baykal and which is forced to follow all its
windings. This mountain massif is little divided and has predominantly
soft forms with dome-like heights which are seldom rocky. These
heights, as Prassolov describes them (160), give the impression of being

160. Prassolov, L.I. Iuzhnoe Zabaykaliye /Southern

361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 Vladivostok is not only a harbor city, but it also has developed [255] into an industrial city. In first place here is the fish industry, which, however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [396] Vladivostok has great importance as a naval harbor and a shipyard, [399] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 Apart from this fish industry, which is distributed among 322 numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

almost never penetrates into the land, however. 000

The area occupied by settlements is very slight in the east and 361
in the center of the depression. In the west, on the other hand, there 563
are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives.

There are only a few settlements on the coast because of its 361
flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region [505]
and is regularly visited by coastal steamers. A short while ago rather [135]
large Eocene brown coal fields were found in the vicinity of the locality. The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/ and supplies the coastal steamers. In addition, Anadyr' is the central [255]
station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory.

Toward the southwest the Anadyr' depression goes over into the 133
Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which

into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities engaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

Of greatest importance for the economy of Kamchatka is fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking of the fish and salting of the fish in vats and above all to processing in canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

world. The crabs are extraordinarily large and attain lengths of half a meter and more. They are drawn up from the bottom of the sea in drag nets in which they get entangled. Worthy of mention in this connection are the floating crab canning factories, which are used on the west coast and which carry out on board all the work from catching to canning.

The capital of the peninsula is Petropavlovsk. The city lies on Avacha Bay, which freezes over only exceptionally. The bay is surrounded in a semi-circle by the panorama of high volcanos. The city's favorable natural harbor, which a short while ago got a ship-yard with a dock for ships of up to 5,000 gross registered tons, gains more and more in importance since the ships of the Northern Sea Route spend the winter here before they start out on their trip to the north. This applies especially to ships which regularly travel to the Kolyma River in order to ensure supplies of heavy materials to the gold regions on the upper course of the Kolyma. Petropavlovsk is the center of the hunting of sea animals and of the industries connected with this. In addition, the city also has fish processing installations, a brickyard, saw mills, and a can factory, which is of especial importance since it supplies the necessary material to all the smaller fish processing localities. In the treeless delta of the Kamchatka River lies Ust'-Kamchatsk, the next most important locality on the peninsula. More than 2,000 workers /302/ work in the canning factories there in the summer. The locality, in addition, has a special importance as the gateway to the interior of the peninsula, which can be reached easily only through the Kamchatka valley, while the other approaches have to overcome difficult passes. In increasing measure also wood is floated down the Kamchatka River to the coast, where it is processed in and sent on from Ust'-Kamchatka. In the broad longitudinal valley of the Kamchatka there are a series of villages, among which Verkhne Kamchatsk and Mil'kovo should be mentioned. In this area removed from the coast, horses are kept, since supplying fish food for dogs causes difficulties. At the inner entrance to the cross valley, at the foot of the largest volcano cone, lies the village of Klyuchi, from which the volcano receives its name. Here the traffic lines from the interior merge and make the locality into a central trading place, especially for fur goods. In addition to Russians and Koryak, some Chinese and Koreans have also settled here. Klyuchi has a scientific observatory for the study and special observation of the Klyuchevskaya Sopka. Below the village the Kamchatka widens into a sea decorated with islands.

339 factories newly created in Komsomolsk, Khabarovsk, and Londoko in Birobidzhan shows. The last-named cement plant has very recently been expanded into the largest such plant in the Far Eastern region next to the plant at Spassk. For the supplying of Transbaykal a cement plant has been newly erected in Temlyuy, 98 kilometers west of Ulan-Ude.

288 In light industry, a new cloth factory in Ulan-Ude is worth mentioning. It was moved here in 1941 and since then it has been so greatly expanded that it delivers several million meters of cloth a year. It is the first cloth factory in the Far Eastern regions. In Birobidzhan there is an important plant in the clothing and knitting goods industry; Khabarovsk and Vladivostok have additional large undertakings in the manufacture of ready-made clothing. In the fu
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• 256 The food and luxuries industry is represented by numerous small plants in the agricultural regions. Khabarovsk, Svobodnyy, and Blagoveshchensk have large mills. The first two have a processing capacity of 200 tons of grain per day; the Blagoveshchensk mill is supposed to be even bigger. The large bread and other baked goods plants, which are typical of Soviet cities, are also to be encountered here.
255 Khabarovsk has the most important installations of this type. The surplus of meat produced in Transbaykal are processed into preserved products and canned goods in the two meat plants in Ulan-Ude and in Chita.

Chita. Until a few years ago there were only two sugar factories in Voroshilov (Ussuri-Khanka Area) to supply the sugar needs. The largest of the two could process up to 1,400 tons of sugar /180/ beets a day. In order to supply Chita Oblast and the Buryat-Mongol ASSR, the cultivation of sugar beets has been begun there since 1943, and a sugar factory has been built in Bichura in the Buryat-Mongol ASSR. Another such factory is supposed to be built in Chita. The extraction of plant oils is done primarily by two large oil mills in addition to numerous small installations which are part of agricultural establishments. One of these large oil mills is in Blagoveshchensk, where primarily sunflower seeds are processed; the second of these large oil mills is in Voroshilov. It specializes in the processing of soy beans and perilla seeds.

/181/ TRANSPORTATION

General Significance of the Transportation Situation

The pressure (to have access) to the sea was the real reason for the unrelenting march of the Russians to the Pacific. The unfavorable situation of the Sea of Okhotsk caused them to turn to the south, where the mouth of the Amur awakened hopes in them. With obstinate patience they endured one and a half centuries until this goal, too, was attained. Their hopes, however, were disappointed. Nikolayevsk at the mouth of the Amur did not prove itself to be a suitable harbor and open door to the Pacific. In Vladivostok a more favorable place and an excellent harbor was found, but it developed slowly because the immediate hinterland was still not developed and the route from Siberia through Russia's own territory via Khabarovsk was too far. Thus, by virtue of a treaty with China, the "Chinese East Railroad," as the Russians call the north Manchurian railroad, was laid as a straight line crossing through Manchuria, even before the Amur railroad was built. With this the way to Vladivostok was shortened by about 1,000 kilometers. The north Manchurian railroad was completed in 1904; the Amur railroad, on the other hand, was completed only in 1916. The harbor in Vladivostok, however, is closed by ice for an average of 110 days, and during this period must be kept open by ice-breakers. So the glance of the Russians shifted to the south and rested in the harbor of Dal'nyy, "the far away," which was later renamed Dairen by the Japanese. From Harbin the Russians laid a railroad to Dal'nyy and laid out Port Arthur to protect the naval port. The route from Harbin

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The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts.

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds.

Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their chest but with their neck. The main food of the Gilyak is fish dried [262] in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [441] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role: this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

133 These volcanos, /299/ projecting far beyond the general level, give the landscape of Kamchatka its peculiar picture.

137 The bottoms of the valleys, if they are not too very swampy and covered with moss, have luxuriant meadows, which appear especially in the southern part of the peninsula and which offer excellent [231] grazing ground for livestock. The introduction of the breeding of livestock has, therefore, attained the greatest measure here, too. To be mentioned especially as characteristic of the landscape picture are the high-growing plants in these regions, especially the umbrella-shaped "sweet grass" (Heracleum tanatum or Heracleum dulce), [243] which grows up to 4 1/4 meters high and develops a stalk 12 centimeters thick. The natives use the juice of this rapidly growing plant [273] to sweeten their food; the Russians earlier extracted alcohol from the plant by fermentation.

133 137 Entirely in contrast to the forest and park landscapes of the mountain regions which are rich in vegetation, are the tundra-like moss steppes which stretch in a broad zone along the entire western coast. In the east, on the other hand, these moss steppes form only a narrow rim around the bays. Occasionally these steppes occur also in the valleys of the mountain ranges. These monotonous regions are depressingly dismal and gloomy especially when a veil of fog hangs over them and prevents seeing any distance.

161 The population of Kamchatka according to estimates, scarcely numbered 20,000 in 1914, and the native element was in the majority at that time. But after World War I and up to the present the population has multiplied because of the increased immigration of Russians, and by 1945 the population was given at around 100,000. Thus today the Russians are predominant, constituting approximately 80 percent of the total population. Today their number is estimated to be at least 150,000. The sedentary population is divided among three lines of settlements: the east coast, the west coast, and the Kamchatka Valley.

563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

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563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

101 563 [621] [583] [776] [763] [769]

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

[197] [281] 101 563 342

Koryak, Kamchadal

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563 together in villages in crudely constructed wooden houses. The leather boats, which they still use for hunting and fishing, are disappearing more and more. The Reindeer Koryak have also already grown far from their original culture. They are primarily reindeer breeders and own large herds. They live nomadic life wandering between the valley regions protected from the wind in the winter and the gnat-free mount-
[342] ainous tundra in the summer. The square winter hut, which is built from wood and is half sunk in the earth, is built in imitation of the Russian house. They recall the old pit dwelling of Europe. Only in the summer do they use their round, transportable tent, which in its original form consisted of a framework of poles covered with reindeer skins. Today, however, it is often only a type of board shanty, since their wanderings are mostly limited to short stretches. The winter huts as a rule lie on rivers and are permanent constructions. Older people often remain in the winter huts even in the summer, and accordingly
[142] the Koryak must be designated as semi-nomadic. Physically the Koryak are medium to short in height with straight black hair, slight growth of hair on the face, and brown-bronze skin color. They make their
[281] clothes out of reindeer, wolf and dog skins, and they make lighter clothing for the summer from seal skin. In this /110/ they show a color-happy feeling for art and decorate their clothing with strips of hide of different colors or with leather which they form into various ornaments.

The Kamchadal or Itelmen occupy the southern part of Kamchatka Peninsula, primarily the southern part of the western coast and the Kamchatka valley. Their number earlier must have been much greater, for old reports speak of tens of thousands. Today their number can
[177] scarcely be determined since a very large part of the people have been completely Russianized. Many have almost forgotten their own language. It is interesting that numerous Russians in the first wave of colonizers are completely absorbed in the Kamchadal and cannot be distinguished from them at all in mode of living and customs. In some villages on the western coast between Zedanka and Zepochnoye there are still pure Kamchadal, who number around 800 (1930). Often these people alone are designated as Itelmen and contrasted to the Kamchadal. They
[342] have abandoned their original earth hut, which can still be encountered in the interior as a base for hunters, and they live in clumsy wooden houses of the Russian type. Fishing is their principal occupation. In the winter, however, they move into the mountains to hunt fur animals. Their houses stand unordered in loose groups on the rivers. When the

Both types of steppes,[1] have developed on chestnut-colored 133
soil. Within these steppes salt-pans also appear. Further toward the 137
north the soil becomes darker, its humus content becomes greater (3 per- [134]
cent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock 231
breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat 242
have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large 282
leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the fore- 241
ground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important 231
animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area 361
around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into [234]
being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Sosnovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge 133
of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

forests here is estimated to be 6.5 billion cubic meters, of which 5.4 billion cubic meters consist of coniferous wood.

The entire river network of the Amur, with its numerous tributaries which are navigable by ships and rafts, facilitates the exploitation of the forests, and accordingly a significant wood industry has been able to develop in the Amur and Ussuri regions. Khabarovsk and the surroundings are regarded as the base of this industry. From there the bulk of the wood-processing industry extends to the south, following the leading line of the Ussuri and always lying on the tributaries of the Ussuri. Here, from north to south, lie the wood centers of Khor, Dormidontovka, Bikin, Lesopil'nyoye, Lesozavodsk, and Vladimirovka. Another base for the wood industry is formed by Vladivostok and its environs with the towns of Okeanskaya, Shkotovo, Lukyanovka, and Tigrovka. Sovyetskaya Gavan' has very recently become the most important wood-processing center on the coast of the Sea of Japan. Komsomol'sk has received a large works for producing cellulose and paper. Aleksandrovsk on Sakhalin and Petropavlovsk on Kamchatka have in the last few years also been equipped with wood-processing plants.

The total amount of wood cut has increased significantly in comparison with the period before World War II. According to careful estimates, the amount of wood cut during the year of 1952 can be assumed to be 5 million cubic meters in the Buryat-Mongol ASSR, 6 million cubic meters in Chita Oblast, and 30 million cubic meters in the other Far Eastern regions. Considering all the circumstances, this estimate is more likely to be too low than too high.

The Soviet Union has acquired an important supplement to its wood economy by its acquisition of southern Sakhalin. The Japanese had built up an excellent wood industry, which before the war consisted of 68 saw mills and 11 large cellulose and paper factories. Karafuto exported annually to Japan more than 1.2 million cubic meters of wood and many times the value of this wood in cellulose and paper. What importance the wood-processing industry had for the economy as a whole is indicated by the industry's share, in terms of value, in the total production of Karafuto. The share of industry in Karafuto's production was approximately 60 percent, and of this 60 percent the cellulose and paper factories alone provided around 90 percent, and the entire wood-processing industry 92 percent. All this now stands at the disposal of the Soviet Union.

means of transportation. They have built 653.2 kilometers of railroad lines, and in addition they have improved the land roads, too, so that they can be traveled regularly by buses. However, this opening up to traffic has generally been limited to the regions near the coast and to the most southerly part of the island, while the greatest part of the interior, as in northern Sakhalin, remained left to itself. Now the most important coal deposits also lie not far from the coast, and the Japanese succeeded in bringing production in a large number of mines up to approximately two million tons by the beginning of the last war. Of this 500,000 tons could be exported to Japan. The remainder was used in Sakhalin, above all in the wood industry, which had been developed on a large scale by the Japanese. Since 1929 the Japanese had gone about, in a planned fashion, the building up of a cellulose and paper industry in southern Sakhalin, in order to be able to supply their home economy with these products. At the end, just before the outbreak of war, there were eleven large cellulose and paper factories in the country, and their production constituted almost 90 percent of the industrial production of southern Sakhalin. The share of these factories in the total production of Karafuto was around 60 percent. In addition, southern Sakhalin delivered large quantities of wood as cut wood and raw lumber. Southern Sakhalin was also very important to Japan as a base for fishing, which produced rich surpluses. However, in one thing the Japanese did not succeed: the securing of food for the population from the island itself. In this particular Sakhalin was an importing region, although the Japanese made every effort to expand agriculture and the breeding of livestock.

/283/ After the evacuation of the Japanese and the taking over of southern Sakhalin by the Soviet Union, the Soviet Union has striven to fill the land with people and to get the economy's production going again. On this there are numerous reports, which tell especially of the founding of kolkhoz and sovkhoz. In addition there are constant reports on the establishment of fishing stations and of fish-processing central stations, but there are only a very few reports on the taking over of coal mines and of getting them into production. There is little information on the installations of the wood industry, although it is to be assumed that the Soviet Union has above all laid value on getting the industrial plants into production, and apparently, too, everything has been done so that these plants could take up their production again.

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts.

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds.

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the
361 name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000
[294] inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire
135 Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establish-
241 ment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is in-
234 fluenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large
[161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid
[39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking
[382] installation has been added to the older oil refinery in order to process
[508] the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there
[241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

339 factories newly created in Komsomolsk, Khabarovsk, and Londoko in Birobidzhan shows. The last-named cement plant has very recently been expanded into the largest such plant in the Far Eastern region next to the plant at Spassk. For the supplying of Transbaykal a cement plant has been newly erected in Temlyuy, 98 kilometers west of Ulan-Ude.

288 In light industry, a new cloth factory in Ulan-Ude is worth mentioning. It was moved here in 1941 and since then it has been so greatly expanded that it delivers several million meters of cloth a year. It is the first cloth factory in the Far Eastern regions. In Birobidzhan there is an important plant in the clothing and knitting goods industry; Khabarovsk and Vladivostok have additional large undertakings in the manufacture of ready-made clothing. In the fu
•295 goods and leather industry there are two outstanding central points t be mentioned, both of which are in Transbaykal: Chita with the largest fur and leather works in the Far Eastern regions; and Chikoyskiy Zavod, which lies east of Kyakhta on the river of the same name, which draws its raw materials from the Mongolian People's Republic. The production of Chita alone is sufficient to supply all of east Siberia with furs and leather. Shoe and other leather goods factories exist in various places. The shoe factories produce approximately 3 million
323 pairs a year. Only one plant--although, to be sure, one of large dimensions--is available to supply a large part of the Far Eastern regions with glass, glass goods, crockery, and porcelain. This plant lies in Ulan-Ude and represents the largest glass and glass goods factory in Siberia. In addition to window and mirror glass, it also supplies special glass for special purposes. According to the projected capacity it is supposed to be in a position to deliver 14,000 tons of plate glass and 6,000 tons of mirror glass. Ulan-Ude is responsible for supplying all of east Siberia with glass. Mention has already been made of the glass factory in Magadan. A smaller factory is supposed to still exist in the Vladivostok area.

256 The food and luxuries industry is represented by numerous small plants in the agricultural regions. Khabarovsk, Svobodnyy, and Blagoveshchensk have large mills. The first two have a processing capacity of 200 tons of grain per day; the Blagoveshchensk mill is supposed to be even bigger. The large bread and other baked goods plants, which are typical of Soviet cities, are also to be encountered here.
255 Khabarovsk has the most important installations of this type. The surplus of meat produced in Transbaykal are processed into preserved products and canned goods in the two meat plants in Ulan-Ude and in Chita.

Goldi, Olcha, Orochi

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563 in the winter dog sleds. The position of the women is difficult.
[342] Polygamy is permitted. Bride purchase remains today. The Goldi live in small settlements of two to twenty houses, which are built out of mud like Chinese fang-tze /Fansen/. Many of them are half sunk in the earth. In the summer, however, the Goldi gladly leaves his fixed house and moves into his original domed tent, which is covered with birchbark or bast mats. In more recent times many Goldi have taken up the cultivation of vegetables, and they also breed pigs and chickens. The Samaghir, who live on the Gorin, a left tributary of the lower Amur, can be named as relatives of the Goldi. Their culture corresponds to that of the Goldi, but many expressions in their language indicate that they formerly were reindeer breeders. At present they devote themselves exclusively to fishing and hunting. Further downstream live the Olcha, who have also spread to the coast of the Tatar Strait and to Sakhalin. On Sakhalin they call themselves the Orok. The Olcha are also hunters, fishermen, and dog breeders. However, in contrast to the semi-nomadic Goldi, they are sedentary, and they all pursue agriculture in slight measure. Various signs indicate that they also were once reindeer breeders as their relatives, the Orok on Sakhalin, still are today. The total number of Olcha and Orok can scarcely exceed 2,000. More numerous--around 2,500--are the Orochi, who are also often called Udekhe (after the river Udekhe). Split up into numerous small groups, they live in the valleys of the middle and southern Sikhote-Alin' and also on the side toward the sea and the Ussuri. Many of
[179] them, especially in the south, are under Chinese influence and speak, reside, and live in a Chinese fashion. However, in the heart of Sikhote-Alin' they have remained rather pure and still live as true forest people, as Arseniev described them, and they show pronounced
[141] Tungus traits. The men on the average are 1.60 meters tall, and the women 1.45 meters. Their small hands and feet are striking.
● [301] Like the Goldi they once wore ear and nose rings, and this custom still exists among the Orochi-Udekhe, although only among the
[342] women. They still live in pointed tents in contrast to the domed tents of the Goldi, in which the tent poles are bent together to form a dome and which recall, in their form, the yurts of the Mongols. On long trips, however, the Orochi did not take his tent along, since the tent was too burdensome for him; instead, while he was on his way, he built a simple protective tent out of twigs. The pure Orochi is only a hunter and fisherman. The social order of this people is

113, 185, 243, 311 Siberia RR1

[For a discussion of the Soviet agricultural program announced in the spring of 1954 to add some 70 million acres to the area of grain cultivation in western Siberia and northern Kazakhstan, see 75: Jackson, R1 Soviet Union, entire source.]

131 The pivot of this circle in its movement from north to south, from the mouth of the Amur to Tientsin, lies in Transbaykal, from which radiate the main traffic lines in these directions. The radius of this circle has currently been shortened by the airline from 2, 250 kilometers to around 1, 600 kilometers.

If Transbaykal thus represents the point of departure for the power position of the Soviet Union, this region's large share in the total area of the Far East constitutes a foundation; for through this region the Soviet Union has also become an East Asian land power, which is undoubtedly very conscious of its position as such. The fact that Manchuria is surrounded /by Russia/ on the northwest, north, and east and the fact that the railroad lines to Vladivostok and Dalny' /Dairen/ run through Manchuria brought this Chinese region under the economic influence of the Russians even in Czarist times. When as a result of the outcome of World War II the Russians won back the positions in Manchuria which they lost from 1903 to 1940, the Russians were again in possession of or had the use of the main railroad lines in Manchuria and the harbors in /14/ southern Manchuria. This means for the Soviet Union again an extension of her economic sphere of influence, which at least equals that of the Czarist empire at the time of its greatest power, and even far exceeds this if consideration is taken of the political events and proceedings of the last few years in East Asia.

185 341 In this the strength of the Soviet Russian position in East Asia depends essentially on the development of her own Far Eastern regions. The present state of colonization and the economy both in Transbaykal and in the real Far Eastern regions shows that these are only at the beginning of their development. Up to now only a small percentage of the land suitable for agriculture has been brought under cultivation, and the exploitation of the natural resources has begun only in small areas. However, the progress which has been made in these spheres even during the Soviet regime reveals that this regime is determined to continue to give the necessary stress and upsurge to the favorable beginnings. The preferred, planned colonization shows this; and the tendency apparent in recent years to lead stronger forces into the industrial sector also indicates that the Soviet Union has the intention of creating in these regions a balanced economy in which all natural resources are given equal recognition. The planned economy of the Soviet Union, which intends to give as self-sufficient as possible a position to all the large economic areas, is especially

clearly manifest here; indeed, the distance and the remoteness of this region from the economic centers of the total union even force them to pursue this policy. In this, a role is not only played by the basic thought of populating these remote but well-situated regions, but also of making them as self-sufficient and strong economically as possible. The opportunities which are given the Soviet Union here cannot be estimated. They are great; only time is required to exploit them.

In connection with the above statement the unique position which the Far Eastern transportation network occupies within the Soviet Union as a whole, deserves to be brought out. A look at the map shows that the entire, complicated railroad network in the western part of the Soviet Union comes together into a single railroad line as it heads toward the Far East. This crosses the Yenisey at Krasnoyarsk and runs as far as Ulan-Ude in Transbaykal. Only here does it begin to split up and to develop into a transportation network, insofar as one can speak of such a thing in the Far East. On this single railroad line, which does, however, have two tracks, depends the entire connection of Transbaykal and the Far Eastern region with the rest of the Soviet Union. Even the completion of the Baykal-Amur line does not eliminate the bottleneck at Krasnoyarsk, and accordingly /15/, a certain self-sufficiency is the result of the development of the railroad network in the Far East.

Transbaykal and the Far Eastern region represent the extreme border position of the Soviet Union in East Asia. As remote border regions, they are really the Far East for the European part of Russia. One sees the sun rise and set eight times before one, coming from Leningrad in the Siberian Express, reaches Chita, the capital of Transbaykal, and another day and a half passes before one arrives in Vladivostok. More than 8,000 kilometers by air lie between the western and eastern borders of the Soviet Union. Chita is 6,236 kilometers by railroad from Moscow; Vladivostok is 9,333 kilometers from Moscow via Khabarovsk, and still 8,312 kilometers via the north Manchurian line by direct route.

But even within the Soviet Far East, a distance which seems extraordinary to the European has to be covered to travel from one end to the other. There are around 2,500 kilometers between the southwestern tip of Lake Baykal and the mouth of the Amur, and the airline from Pos'yet Bay, southwest of Vladivostok, to Cape Dezhnev on the Bering Strait is almost 5,000 kilometers long. Sakhalin Island

131 from north to south is almost 1,000 kilometers long, and Kamchatka Peninsula stretches around 1,600 kilometers into the sea from the mainland. These few facts may be enough to give some notion of the vast distances and also the size of the land. The land covers 3,850,000 square kilometers. That is more than fifteen times the size of Great Britain and Northern Ireland or seventeen times the area of France. But this vast area[3] is in European terms practically empty of 161 people; for in one square kilometer taken as the general mean, there 311 are only 1.6 persons--even if estimated population of 6.3 million in 1950 is taken as a basis. That is extraordinarily sparsely settled. However, in order not to give any false notions, it must at the same time be noted that the actual distribution of people is entirely different. In the southern parts there are regions which are much more thickly settled, while in the vast areas away from the transportation lines, especially throughout the north, in areas of many square kilometers only one person is to be found.

The southern regions--Transbaykal, Amur Oblast, Maritime Krai, the greater part of Kamchatka, and also Sakhalin--are completely suitable for accepting people, even though the harsh climate brings certain hardships. But the Russians are more accustomed to bearing such conditions and better suited for overcoming them than any other European people. Thus Transbaykal and the real Far Eastern regions of the Soviet Union offer settlement opportunities with good prospects for the excess population in other /16/ sections. The population has continuously and considerably increased through immigration:

1911	1,723,754
1926	2,304,000
1939	4,039,000
1950	6,300,000

631 The administrative division corresponds approximately with 161 the natural provinces named in the concept "Soviet Far East" although the borders do not coincide exactly. However, in order to be able to use figures and statistics, it is necessary for practical reasons to make the administrative regions equivalent to the provinces. Unfortunately exact data for this purpose are available only for the time of the last census on January 17, 1929. These data give the following figures for the Soviet Far East: /Table on Following page/

[3] [i.e. The Soviet Far East — Analyst]

133 "golets"), which means the same as "baldy" or "bald-head." These goltsy, which appear in Transbaykal only in individual instances, are extremely typical for all mountain areas in the Far Eastern region.

101 Culturally, too, Transbaykal has to a remarkable degree a
•311 transitional character. The steppe regions, the steppe valleys, and the steppe islands have since time immemorial been the seat of nomadic cattle-breeders, in this case the Buryat, an intelligent and energetic tribe of Mongols, who have kept themselves on the steppes which suit their nature and culture. It is interesting to determine how exactly their expansion even today coincides with their natural landscape. The Buryat penetrate only rarely into the forest areas; more often they leave these to the forest peoples of the Tungus, who even today live there still as hunters and reindeer breeders. The Buryat were the first people to give successful resistance for a time to the invading Cossacks, but as nomads they later had to clear the field for the Russians who were seeping in slowly and pursuing agriculture. Buryat helped themselves, however, by adjusting: they often went over to agriculture themselves, and they appropriated for themselves the advantages of Russian culture. Thus, even though they were penetrated by Russians, they were able to retain their original regions and to attain a cultural level which raised them above all their Mongolian tribal brothers on the other side of the Soviet Russian border. Because of the invasion by the Russians, there came into existence here a cultivated landscape which was inserted between the completely forested areas in the north and the pure steppes in the south; but corresponding to the spacious transition region, this cultivated landscape did not appear in a closed-off zone, but in culture islands. In extensive regions in the south near the border, the Buryat even today still lead their old nomadic, cattle-breeding life.

132 The fact that the bulk of the rainfall occurs in the summer is favorable for agriculture. Chita, lying in the middle of the land, has an annual rainfall of only 319 millimeters. However, 289 millimeters of this falls during the vegetation period so that a relatively sufficient
[243] amount of dampness is available, in conjunction with continental warmth, to make possible a very high yield of summer wheat. This makes Transbaykal an important wheat producer and the principal supplier for all of east Siberia.

133 The Amur country is adjacent to Transbaykal, without a clear border, north of the northern arc of the Amur. In its large morphological traits it is no less varied than Transbaykal, though the differences in

311 The excess of dampness in vegetation season is a handicap even for agriculture and makes difficult the extension of the cultivated areas. New land for cultivation must as a rule be won laboriously from nature by drying it out. More and more the extended Zeya-Bureya Plain and the area along the Amur have become quite thickly settled, and large parts of the famous "Amur [162] Prairie" have been transformed into cultivated land. It is predominantly Russians who live here. The Chinese who immigrated here earlier have been pushed back over the Amur--in part by force. In all the rest of the area, however, /30/ untamed nature dominates the landscape, which is traversed at most by a few Tungus or Russian 316 hunters. A wealth of gold has lured numerous Russians into this wasteland, too, especially in the area around the upper courses of the left tributaries of the Amur. A locally very active gold industry has come into existence, which today is organized by the state and which has drawn even this distant region into the economy.

133 The Ussuri country is divided into two completely different parts: the huge mountain mass of the Sikhote-Alin', which fills the entire area from the Bay of Peter the Great in the south to the mouth of the Amur in the north; and the Ussuri-Khanka lowlands, which extend west of the Sikhote-Alin' in the same direction and continue south of the Khanka Lake without marked interruption as far as the Bay of Peter the Great.

The Sikhote-Alin' is a forest-covered, strongly valleyed /zertaltes/ mountain mass, which is divided into several ridges running parallel to the coast. The shapes of the mountains are soft without especially marked edges and projections. More often plateau-like shapes predominate here, too. The heights in general lie between 650 and 850 meters; the valleys, however, are deeply carved out. Rising slowly from the west, the mountain mass descends steeply to the sea and only rarely leaves free a narrow coastal indentation plain on which there arises small, poverty-stricken fishing villages. The nearness of the sea crossed by a cold stream causes a cool, foggy, rainy, unfriendly summer, thus producing similar conditions to those found on the entire coast extending to the north beyond Okhotsk. Swampy valleys and forests dripping with a cool dampness and with a more northern stamp are typical marks of this area.

132 The western side of the Sikhote-Alin' and the Ussuri-
137 Khanka lowlands, on the other hand, correspond more to the Amur country. Warm to hot summers joined with high rainfall and a

strong inclination to marshiness are distinguishing marks for this area. 132
The Sikhote-Alin' stretching parallel to the coast keeps back the 137
coolness and also the fog from the sea and allows the sun to have a stronger effect. Everywhere the more southerly position makes itself apparent. In the forests of Sikhote-Alin' deciduous trees appear more and more in the foreground, increasing toward the south, until finally, in magnificent specimens, they form the sole type of tree.
In the cultivated zone, too, which stretches along the entire lowlands, 311 ●
typically Manchurian-Chinese plants become noticeable in increasing [241]
measure toward the south. Kaoliang and other millet, soya beans, and rice appear noticeably on the scene. There is a change in the 162
population, too. In the northern part of the lowlands, as far as Khanka Lake, Russians and Ukranians predominate; in the extreme south, Chinese and Koreans are in the majority. The Ussuri-Khanka lowland is relatively thickly settled, the Sikhote-Alin' itself, on the [316]
contrary, is in large areas as good as uninhabited, except for some mining areas in the south, where /31/ coal primarily is mined. Native Tungus traverse the Sikhote-Alin' in smaller numbers than in the old days, and in addition there are Russian hunters and Chinese collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional 131
direction. The southern part is traversed by two parallel mountain ridges, which are separated from one another by a relatively wide depression. The eastern mountain chain is shorter but higher, and its peak of 2,013 meters is the highest elevation on the island. Toward the north the mountain ridges flatten out and give way to a hilly plain. The cool, foggy air masses blow unhampered over the land here, while in the south a difference in climate is caused by the mountain chains. The eastern slopes are cool, rainy and unfriendly, while the western side appears somewhat milder. The southern parts of the island, which were Japanese from 1905 to 1945 and only now have again become Russian , are generally more favorable. In terms of its landscape, Sakhalin can be designated a damp, cool, forested mountain country, but in numerous places treeless moss steppes appear, which recall the tundras of the north. Once feared as a Russian prisoners' colony, Sakhalin is advancing economically more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encom- 133
passes, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina Bay in the extreme northeast. In the western part, which stretches

chains traverse it from west to east, and these mountain chains with their spurs in part reach the coast, where they break off sharply. But this area also does not lack plains, for plains extend from the coast into the land on both sides of the rivers. 133

All these areas[1] are either very little settled or are completely uninhabited. Of the Russian coastal settlements only Okhotsk and Magadan as harbors have a certain importance. Worthy of note is the reindeer breeding of the Chukchee on the peninsula named after them. 311.

South of the Anadyr' lowland rises the Koryak Range, which fills the entire area as far as Korff Bay. Some mountain ridges, only a little separated from one another, traverse the land in a wide arc from the southern end of the Anadyr' Bay in the direction of the Kamchatka Mountains. Only near the coast have the rivers dug out deep valleys; here forest growth appears, while the high areas and the ridges are covered by pure tundra. 133 [137]

The coast of the Bering Sea has numerous native and Russian fishing settlements; the hinterland, on the other hand, is occupied only by small Paleoasiatic remnant peoples, who pursue reindeer breeding. [361]

Kamchatka Peninsula is one of the most interesting regions in the Soviet Russian Far East. The relief, which just like Sakhalin gets its main characteristics from two mountain ridges, is extraordinarily varied, for numerous young volcanos are set on the mountain ridges, and a number of these volcanos are still active. The Klyuchevskaya Sopka, the highest volcano on the peninsula, rises from the valley of the Kamchatka River to a height of 4,775 meters and makes an imposing picture with its ice-capped peak. Because of the abundant rainfall and the mild climate, the plant covering of the peninsula is very luxurious. On the outer mountain slopes deciduous forests predominate, only /33/ in the interior of the peninsula do firpine forests appear. The only exception on a larger scale is the west coast, on which tundra-like moss steppes have developed. In addition to numerous Russians who occupy primarily the coastal fishing villages, the Paleoasiatic Koryak and Kamchadal have remained in the interior. 137 162 361

The volcano belt of Kamchatka continues toward the south in the island chain of the Kurils, which after World War II went to the Soviet Union along with the southern half of Sakhalin Island. 133

1 [i.e. the Okhotsk coastal area and the Anadyr' area -- Analyst]

characteristics and its structure, but in lower, damp places it clearly shows its semi-marshy origin. 134

In general, however, podsol soil predominates here; it is but a little inferior in quality to the same soils of North Germany and Central Russia, and it is well suited for agriculture. According to general /127/ estimates, the area capable of cultivation is 200,000 square kilometers in Transbaykal, 110,000 square kilometers in the Amur county, and 150,000 square kilometers in the Ussuri region--thus a total of 460,000 square kilometers. In contrast to these opportunities, the area exploited thus far for agriculture was only 1,877,900 hectares (1938) and thus only a small proportion of the total area available. However, the area under cultivation has increased 60 percent since 1913, when it was 1,171,500 hectares; and this is a mighty accomplishment for this land so distant from central Russia. 316

The growth of the area under cultivation occurred differently in the various regions as the following chart shows. The area under cultivation has more than doubled since 1913 in the Buryat Mongol ASSR and in the Chita Oblast, and this increase has been continuous in the years of the Soviet regime. The natural conditions here are similar to those of the southern Russian steppe, and require no special adaptation on the part of the Russian peasants. Conditions are different in Khabarovsk Krai and in the Maritime Krai, as has already been shown. The cultivation of new areas here is behind that in Transbaykal and shows greater variations from year to year. The decline in Khabarovsk Krai from 740,300 hectares in 1928 to 580,800 hectares goes back to the beginning of the Five Year Plans which eliminated less productive land by means of planned management. It is remarkable, however, --as official Soviet statistics indicate--that there has been a regular year by year decrease in the area under cultivation in the Maritime Krai from 1932 to 1938. (The figures from 1932 to 1938 in 1,000 hectares are: 461.8--449.6--431.6--419.9--371.0--322.0--322.0--318.3.)

The above as well as the following figures are taken from the Soviet publication, "Posevnye ploshchadi SSSR" (11).

11. "Posevnye ploshchadi SSSR" /Areas under Cultivation in the USSR/. The Dynamics of 1928, 1932-38 in Comparison with 1913. Statistical Reference Work. Issued by the State Planning Commission, Moscow-Leningrad, 1939.

●311 The Development of the Area under Cultivation
in 1000 hectares

	Buryat-Mongol ASSR	Chita Oblast	Khabarovsk Oblast	Maritime Krai	Total
1913	191.6	287.2	471.4	201.3	1,171.5
1928	203.7	407.7	740.3	413.0	1,764.7
1938	386.7	592.1	580.8	318.3	1,877.9

2H Among the plants cultivated, grain by far stands in first place in all four regions. In the Buryat-Mongol ASSR 90 percent and in Chita Oblast even 92 percent of all the area under cultivation (1938) was devoted to grain; and accordingly the two regions can be regarded as pronounced grain areas. In Khabarovsk Oblast the proportion devoted to grain is 75 percent and in the Maritime Krai it is 69 percent. As is appropriate to the climatic conditions, the cultivation of summer grain predominates. Winter seeding in all four regions together takes up only 27,500 hectares, which is 1.5 percent of the area under cultivation.

/128/ The Cultivation of Grain in 1938 in 1,000 Hectares

	Total Area Devoted to Grain	Winter Grain	Summer Grains		
			Wheat	Oats	Barley
Buryat-Mongol ASSR	348.8	10.8	133.2	84.9	14.7
Chita Oblast	543.0	6.4	275.4	167.1	31.8
Khabarovsk Oblast	446.0	0.8	242.4	177.6	2.5
Maritime Krai	276.0	9.5	88.3	82.6	6.0

The cultivation of little paying summer rye predominated in the Buryat-Mongol ASSR before 1914, but since then this has been displaced more and more by wheat. By 1938 wheat was at the top of the list of plants cultivated, having 40 percent of the cultivated land devoted to it, and only 27 percent of the agricultural land was devoted to summer rye. The cultivation of potatoes, vegetables, and feed for livestock was entirely lacking earlier, but at present it is being strongly pushed, and by 1938 it had already reached 6.2 percent. In the Chita Oblast the cultivation of wheat has increased considerably and has tripled since 1913. Having 46 percent of the land under cultivation, it comprises exactly half the land devoted to grain. By 1938 only 6.9 percent of the land was devoted to summer rye, which once

241 is still not sufficient to cover the deficit of the two other regions.

Area Under Cultivation Per Person as of 1938

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	Total Area Under Cultivation in 1000 hectares	Area Under Cultivation Per Person in hectares	Total Area Devoted to Grain in 1000 hectares	Area Devoted to Grain Per Person in hectares
Soviet Union	136,943.1	0.80	102,411.0	0.60
Buryat-Mongol ASSR	386.7	0.71	348.0	0.65
Chita Oblast	592.1	0.51	543.0	0.47
Khabarovsk Oblast	580.8	0.41	446.0	0.31
Maritime Krai	318.3	0.35	216.0	0.24
Transbaykal and the Far Eastern Region	1,887.9	0.47	1,553.8	0.39

241 No statistics of equal worth are available for judging the development of agriculture from 1938 to the present, since no such statistics have been published since then. Instead a great number of bulletins from the Soviet press are on hand; but these contain only isolated data of a general type, or special reports from highly variable areas or even localities. It is difficult to form an overall picture from all these reports, but it is the only possibility of being able to get at least a glance at the development.

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[B12] Many reports speak of an immigration which benefits both the industrial and also the agricultural sector. Also the enlargement of the area under cultivation and the raising of production often form the subject of these reports, and in this the results of the last Five Year Plan, up to 1950, are especially emphasized. In the steppe regions of the Chita Oblast a beginning has been made in the introduction of artificial irrigation. As a beginning for this, numerous canals were dug in 1948 which irrigated 12,850 hectares. In the vicinity of the big cities the greatest attention /130/ has been devoted to the development of farming near the city and especially to garden farming. In the surroundings of Vladivostok the setting up of 1,560 hectares of garden area in 1948 was envisaged in the framework of a great plan. Also in the Khabarovsk area important wild areas are being converted into cultivated land so as to ensure the feeding of the growing city.

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Here in 1950 a Melioration Machine Station was erected, the first in the Krai, which is to be followed by seven others. Of great significance is the development of agriculture on the Kamchatka Peninsula. Before World War I, according to Soviet figures, the area under cultivation was 4 hectares; in 1938 it was 2,778 hectares. Since then it has further increased. In 1950 there were more than 10 kolkhoz. In 1952 a scientific expedition was sent out from Khabarovsk to Kamchatka to investigate and to prepare for the gaining of additional land for agriculture. In the same year two Melioration Machine Stations were erected, which in the next three years made nearly 40,000 hectares of swamp and taiga country available for agriculture. From Sakhalin, too, successes in the winning of new land were reported. Prominent is the fact that also the native population (Gilyak in the "Chir Unvd" Kolkhoz, i.e., "New Life Kolkhoz") has been used with success in agriculture. How quickly the agricultural occupation of southern Sakhalin has been carried out is indicated by two reports: in 1949 there were 33 kolkhoz there and 3 sovkhoz, and in 1950 there were already 69 collective farms.

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The progressive mechanization and technicalization of agriculture constitutes a second important part of the content of the more recent reports. The number of Machine Tractor Stations (MTS) has increased in all regions. In the Buryat Mongol ASSR their number increased from 25 in 1937 to 36 in 1948; in Khabarovsk Krai they almost doubled in number from 1938 to 1947, when they numbered 76. In 1948, 25 Grass Mowing Machine Divisions were installed in the Buryat Mongol ASSR; and from 50,000 hectares of meadowland these Divisions were supposed to supply winter hay for the great kolkhoz, since the manual work force was not sufficient. In the Buryat Mongol ASSR the first agrarian city in the Soviet Far East was also established in 1950, and for this 400 two-story dwellings and 30 one-family houses were constructed. Remarkable, too, are the reports that special mowing threshers were used in harvesting the soy beans and the rice.

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Among the plants whose cultivation has been especially fostered, soy beans and rice stand in first place. In 1949 there were 16,000 more tons of soy beans harvested than in 1948. With rice cultivation, on the other hand, progress seems to be made only slowly. In 1937 in the Far East 36,400 hectares were cultivated with rice, and, according to the last Five Year Plan, the area is to be increased to 37,000 hectares by 1950; this is very modest considering the fact that in 1913 there were 57,000 hectares of rice fields. Great attention is also devoted

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	1940	1941
Soviet Union	225.0	240.0
Kolyma Region	51.0	55.6
Percentage of the whole supplied by the Kolyma Region	22.7	23.2

The share of the Kolyma region has risen to almost 25 percent of the total extraction done in the Soviet Union. According to definite plans, gold production in the Kolyma area is to be raised to 75,000 kilograms. Friedensburg, in his book on "Gold" which appeared recently, has collected together in a table of figures (63) all estimates and

63. Friedensburg, F., "Gold," Die Metallischen Rohstoffe /Metallic Raw Material/, Vol. 3, 2nd edition (Stuttgart, 1953), p. 178.

reckonings on the total gold extraction in the Soviet Union. With justice he points out the confusion that rules on this question even in foreign agencies versed in such affairs. Nevertheless, I do not shy from bringing the above table which rests on my own sources. The present production may be assumed to be approximately 250,000 kilograms (1952). In any case, it is certain that the Kolyma region stands at the head of all gold fields in the Soviet Union. According to the supplies explored, mining is assured for 15 to 20 years if the extraction remains at 75,000 kilograms.

The Forests and the Use of Wood

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The forests of Transbaykal and of the Soviet Far Eastern regions are, by European standards, as large as countries. The forested area covers around 1,800,000 square kilometers. While the Far Eastern regions contribute around 17.5 percent of the total area of the USSR, these regions provide 21 percent of the total forested area.

The distribution and extent of the forests in the Soviet Far East are shown in the following table:

(Table on following page)

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Region	Forest Area in millions of hectares	Percent of the total area	Area stocked with forests in millions of hectares	Percent of the total area
Buryat-Mongol ASSR	28.7	84	18.7	57
Chita Oblast	57.6	80	43.2	60
Far Eastern Regions	104.2	37	58.9	21
	180.5		120.8	
USSR	956.3	44	484.2	23

/170/ Transbaykal can be designated as rich in forests although it includes extensive steppes. The forest area or the forest potential, as the Russians designate it, is given at 28.7 million hectares (1936) in the Buryat Mongol ASSR; thus the wooded area covers more than 84 percent of the total area of this republic. However, this total figure of 28.7 million hectares (100 percent) also includes the pastures and meadows closed in by forests (6 percent), and, in addition, the swamps, the bare peaks of the gol'tsy, and boulder areas little grown up (13 percent), and thus only 23.3 million hectares (81 percent) remain for forests themselves. Of this, again, only 18.7 million hectares (65 percent) are stocked with forest, i.e. real, tall forests. Burned areas, windfallen trees, and other things account for the significant difference between the two last figures. These figures show the actual conditions, indicating how one must view in their individual parts the areas designated as general forest potential in the statistical information. These figures also serve at the same time to explain the above table. The percentage of forest is largest in the northern areas, especially in the mountains which surround Lake Baykal, and it is smallest in the south, especially in the area around Kyakhta.

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According to types of trees, the stocked wooded areas are divided as follows:

Conifers: 93 %, with	larches	47 %
	pines	24 %
	cembra pines	16 %
	spruces, firs	6 %
Deciduous trees: 7 %, principally		
	birches, aspen, poplars, and others	7 %

311 137 Approximately 65 percent of the forests consist of wood ready for cutting, i.e. the trees are over 100 years old. These and the above figures should be regarded as only estimates; for a large part of the forested area has neither been investigated nor has a count of the supply in the forests been made. What large tasks are still to be resolved here and also in the other Far Eastern regions is shown by the figure given by V.F. Panayev for the year 1936: he said that at the time only 18.4 percent of the total forested area in the Buryat Mongol ASSR had been explored. (12)

12. Problemy Buriat-Mongolskoi ASSR /Problems of the Buryat-Mongol ASSR/, Works of the First Conference for Exploring the Productive Powers of the Buryat-Mongol ASSR, 2 vols., (Moscow-Leningrad, 1935-36), Vol. II.

313 The use of the wood is determined in terms of area by the development of transportation. The exploitation of the forests is limited to the area of the Selenga and its tributaries, which carry down the cut wood for the most part to Ulan-Ude or Il'inskoye for processing. The forests are also exploited in the regions near the shores of Lake Baykal, where wood processing industries have arisen at the mouths of the Barguzin and of the Upper Angara. The most important plant in this area is in Mysovsk /now: Babushkin/, where a great lumber works with sixteen saw sashes is situated /saw frame/. The railroads should also be mentioned as the last supplying line for exploiting /171/ the forests, while all the remote forests still remain in their natural state.

311 313 In Chita Oblast the forest conditions are similar, but here the percentage of actual forest is somewhat greater than in the Buryat-Mongol ASSR. The exploitation of the forests is limited to the regions near the railroad and to the areas neighboring on the Amur and its tributaries. The main processing centers are Chita, Khokhotuy, and Bada.

311 The percentage of forested areas in the other Far Eastern regions appears slight, being 37 percent for the forested areas and 21 percent for areas actually stocked with trees. This is explained by the fact that to these regions also belong the areas of the northeast, such as the Chukchi and Koryak peninsulas, the Okhotsk coastal area, and Kamchakta, which in part are completely without forests or have only slight forests. This is also explained by the great difference between the general forest potential (104.2 million hectares) and the area stocked with forest

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(58.9 million hectares). If we set the general forest potential at 100 percent, then, according to the Atlas of Sources of Energy in the USSR, there should be subtracted from this 1.1 percent for meadows and pastures (1.1 million hectares), 24.7 percent for swamps, bare rock, and boulder slopes which are only slightly grown over (25.8 million hectares), 17.7 percent for bush growth areas, burned areas, windfallen trees, and other (18.4 million hectares), and thus 56.5 percent (58.9 million hectares) remain for the areas stocked with forests.

The bulk of the forests are thus divided between the south, i.e., the Amur and Ussuri regions, and the Maritime Krai. This is of very great economic importance, because these forests are thereby closer to the reach of man. In these areas the percentage of forests to the total area is also much greater than the general average. Thus, for example, the percentage of forest land in Khabarovsk Oblast is 66 percent, in the Maritime Krai it is 51 percent, and in the Amur Oblast it is 37 percent. The Oblast of the Lower Amur (28 percent) and the Zeya area (25 percent) have the smallest percentage of forest area here. Sakhalin is among the areas richest in forests. In northern Sakhalin the percentage of forest area is 66 percent, and in southern Sakhalin which was formerly Japanese, it even reaches 85 percent (2.9 million hectares).

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The stocked forest areas (not including southern Sakhalin) are divided among the various types of trees as follows:

Conifers:	84 %, with	larches	36 %
		spruces	27 %
		cembra-pines	12 %
		pines	8 %
		firs	1 %
Deciduous trees:	16%, with	birches	9 %
		oaks	4 %
		lindens	2 %
		ashes, aspens	1 %

The deciduous trees in particular increase toward the south, and accordingly, in comparison with the general averages given in the above table, the percentage of valuable deciduous trees in the Ussuri region and in the southern part of the Maritime Krai is much larger.

The supply of wood in the Far Eastern forests is also larger in comparison with Transbaykal, for in the Far East 70 percent to 80 percent of the trees are ready to be cut down. The total wood supply in the

forests here is estimated to be 6.5 billion cubic meters, of which 5.4 billion cubic meters consist of coniferous wood.

The entire river network of the Amur, with its numerous tributaries which are navigable by ships and rafts, facilitates the exploitation of the forests, and accordingly a significant wood industry has been able to develop in the Amur and Ussuri regions. Khabarovsk and the surroundings are regarded as the base of this industry. From there the bulk of the wood-processing industry extends to the south, following the leading line of the Ussuri and always lying on the tributaries of the Ussuri. Here, from north to south, lie the wood centers of Khor, Dormidontovka, Bikin, Lesopil'nyoye, Lesozavodsk, and Vladimirovka. Another base for the wood industry is formed by Vladivostok and its environs with the towns of Okeanskaya, Shkotovo, Lukyanovka, and Tigrovka. Sovyetskaya Gavan' has very recently become the most important wood-processing center on the coast of the Sea of Japan. Komsomol'sk has received a large works for producing cellulose and paper. Aleksandrovsk on Sakhalin and Petropavlovsk on Kamchatka have in the last few years also been equipped with wood-processing plants.

The total amount of wood cut has increased significantly in comparison with the period before World War II. According to careful estimates, the amount of wood cut during the year of 1952 can be assumed to be 5 million cubic meters in the Buryat-Mongol ASSR, 6 million cubic meters in Chita Oblast, and 30 million cubic meters in the other Far Eastern regions. Considering all the circumstances, this estimate is more likely to be too low than too high.

The Soviet Union has acquired an important supplement to its wood economy by its acquisition of southern Sakhalin. The Japanese had built up an excellent wood industry, which before the war consisted of 68 saw mills and 11 large cellulose and paper factories. Karafuto exported annually to Japan more than 1.2 million cubic meters of wood and many times the value of this wood in cellulose and paper. What importance the wood-processing industry had for the economy as a whole is indicated by the industry's share, in terms of value, in the total production of Karafuto. The share of industry in Karafuto's production was approximately 60 percent, and of this 60 percent the cellulose and paper factories alone provided around 90 percent, and the entire wood-processing industry 92 percent. All this now stands at the disposal of the Soviet Union.

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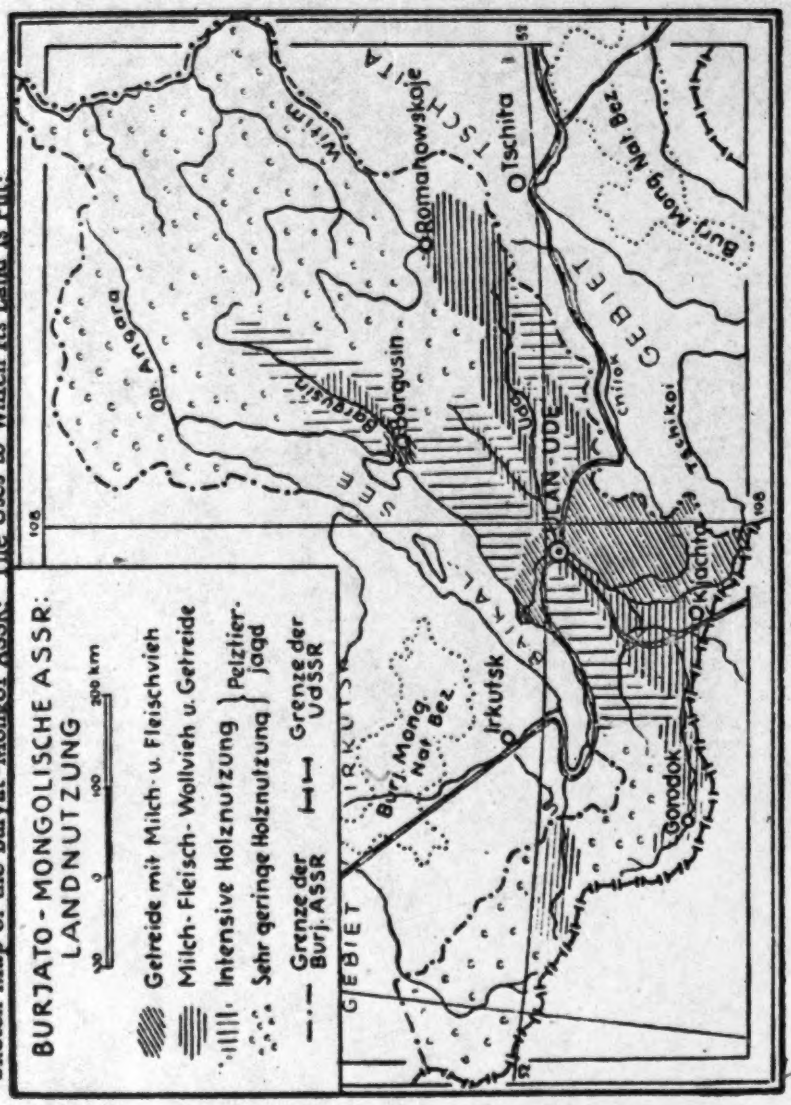
Sketch Map of the Buryat-Mongol ASSR: The Uses to Which Its Land is Put.



Grain with livestock used for milk and meat.
Livestock used for milk, meat, and wool; plus grain.
Intensive exploitation of wood.
Very slight exploitation of wood.
} Hunting of fur-bearing animals.
Border of the Buryat ASSR.
Border of the USSR.

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Sketch Map of Chita Oblast: Use to Which Land Is Put:

wheat with oats
various grains, predominantly rye
} with dairy and meat livestock

meat, dairy, and wool livestock with wheat

developed exploitation of the forests
slight or no exploitation of the forests
} with hunting of fur-bearing animals

1. Petrovsk-Zabaykal'skiy
2. Tarbagatay
3. Khokhotuy
4. Khilok
5. Mangut
6. Khapcheranga
7. Chernovskiye Kopi
8. Darasun
9. Baley
10. Gutay
11. Pokrovka
12. Kokuy

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off steeply at the Chara valley. The Udokan Mountain Range declines steeply on the north and on the south, in short, on both sides, while the Kalar Mountain Range has its steep decline in the north and declines slowly toward the south. 133

The Kodar Mountain Range, as seen from the Chara valley, represents a single closed mass, its high plain character being clearly recognizable. Through erosion this range has been broken into individual blocks. The Quarternary glaciation has contributed to widening and reforming the valleys. Most heavily cut up is the steep southern slope. The gol'tsy resting on the surface of the massif attain an absolute height of approximately 2,000 meters.

The Udokan Mountain Range in its picture shows a far greater unevenness than the Kodar Mountain Range. The former clod is broken up into irregular parts, which lie at various heights. Here, too, erosion has participated very strongly in the destruction of the original forms. Most strongly torn up is the decline toward the east to the valley of the Olekma. The highest places in the mountain ranges, especially in the area where the Udokan runs into the Kalar Mountain Range, received their present-day face through the Quarternary glaciation, whose traces are visible everywhere and give this part of the mountain range an Alpine appearance. But, in addition, there are also level high plains in the Udokan Mountain Range. In these high plains the original form of the post-Tertiary peneplain is visible.

Aside from the parts where it unites with /236/ the Ukokan Mountain Range, the Kalar Mountain Range generally has more high plains and flat gol'tsy, whose slopes are saturated with pieces of rock and boulders. The Kalar has preserved its plateau-like character better than the Udokan Mountain Range. Toward the south the Kalar slopes slowly to the middle and lower course of the Kalar valley.

The greatest part of the Olekma Highland is overgrown with thick taiga; only the high gol'tsy project beyond these forests and are covered with bent wood or tundra vegetation. The highest mountains are without any form of plant growth. The swampiness is generally very great. It occurs most heavily in the level high plains and the valley depressions. The valley of the Chara especially is very heavily covered with swamps, just as generally the valleys opening toward the north suffer more from much too much dampness than the valleys opening toward the south. However, already here lonely Russian settlements are found, in which agriculture is pursued. Tungus reindeer breeders are known in the valleys of the Kalakan and Kalar. [137] [311]

The Zeya-Bureya Plain

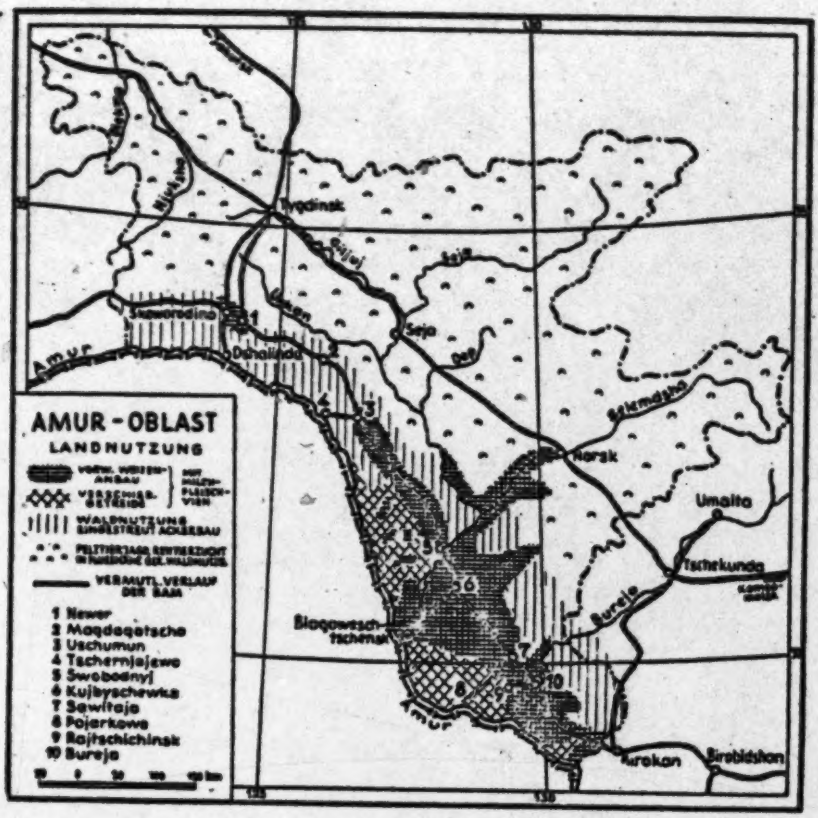
This area is the section of the Amur country which is the richest in population and which is the best opened up economically. The easily accessible plain, the milder climate, the fertile soil have from early times /242/ caused a relatively heavy population to settle here, and pursue agriculture. This plain is the granary of the Amur region; 80 percent of the total area under cultivation in the region lies here. [311]

The region falls into two sections: the Amur-Zeya plateau in the west and the great Zeya-Bureya lowland, which extends east of the lower course of the Zeya along the Amur as far as the Bureya Mountain Range.

The Amur-Zeya plateau takes up the western part. This plateau stretches between the Zeya, its tributary the Urkan, and the Amur. The plateau declines slowly from the northwest to the southeast; the interior sections are gently rolling open country; on the other hand, the rivers toward the outside have dug deep gorges. The plateau breaks off sharply toward the lower Zeya and toward the Amur. On the right bank of the lower Zeya the decline becomes 180 to 240 meters deep and, with its heavy gorge formations, gives the impression of a mountain when viewed from the eastern "meadow shore." On the Amur the plateau lies 100 to 120 meters above the river at most, but only very rarely does the plateau come near the river. Here between Chernyayevo and Blagoveshchensk, the Amur valley has four terraces. The lowest one is exposed only when the water is low. Adjoining it with a step up of 4 to 6 meters, and, in places even 8 meters, is the meadow terrace with sandy, gravelly, and muddy deposits. This terrace is considerably wider and is regularly flooded when the water is high. The next middle terrace lies 10 to 20 meters above the normal water level and also breaks off precipitously toward the second terrace mentioned above. Forming a steep bank, this terrace also goes right to the path of the water in many places. There are already settlements in many places on it. The fourth or upper terrace attains a height of 50 to 60 meters and is less clearly set off. The northwestern part of the plateau still has a thick forest covering, but here the percentage of deciduous trees is very considerable. Toward the southeast the thickness of the forests decreases, and they gradually give way to a type of forest steppe. Characteristic of this section are little birch forests and extensive swamps and swamp meadows. Accordingly, livestock breeding predominates among the Russians settled here. [137]

Sketch Map of the Amur Oblast: Land Exploitation:

634
311



Predominantly cultivation of wheat, Various grains } with dairy and meat livestock

Exploitation of the forests intermixed with scattered agriculture

Hunting of fur-bearing animals, breeding of reindeer, slight exploitation of the forests near the rivers

Presumed course of the BAM

1. Never
2. Magdagachi
3. Ushumun
4. Chernyayevo
5. Svobodnyy
6. Kuybyshevka
7. Zavitaya
8. Poyarkovo
9. Raychikhinsk
10. Bureya

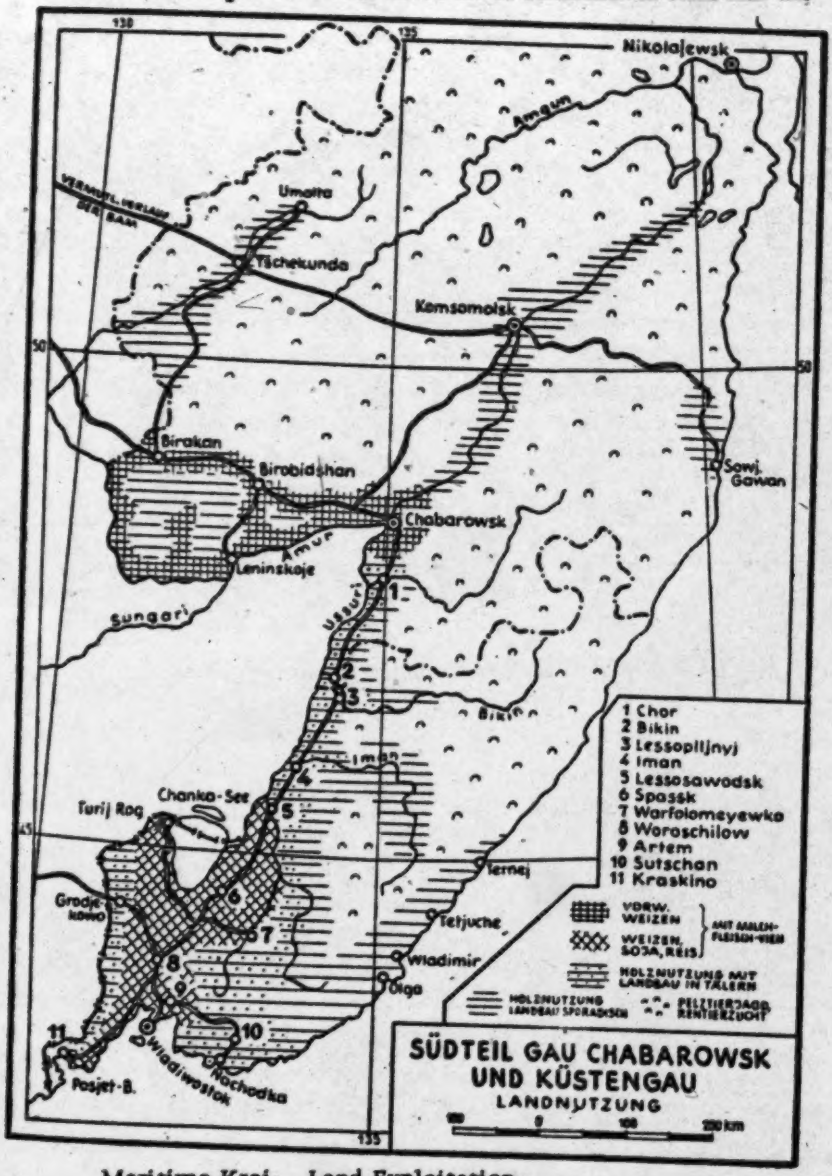
16*

/243/

3: Thiel--282 K-4,5(no date) 1953 RR1 Siberia RR1

Sketch Map of the Southern Part of Khabarovsk Krai and the

634
311.



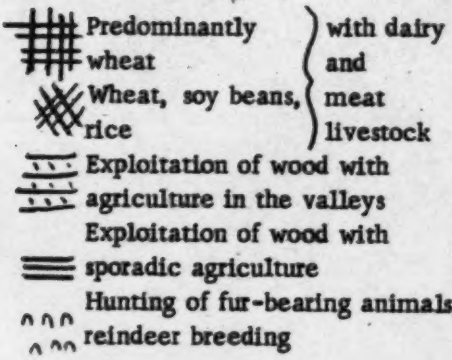
Maritime Krai: Land Exploitation:

(Captions to map on following page)

634
311.

(Captions to Map on page 282)

1. Khor
2. Bikin
3. Lesopil'noye
4. Iman
5. Lesozavodsk
6. Spassk
7. Varfolomeyevka
8. Voroshilov
9. Artem
10. Suchan
11. Kraskino



black earth regions in southern Russia have a damp spring and a dry summer. Here it is the reverse: the spring is dry; the summer, on the other hand, is very damp. 134

On the lower Bureya red earth is diffused under lightly podsolized soil. This red earth is the product of the weathering of gray Tertiary slate, and it owes its brick red color to enrichment by iron oxide. This red earth indicates that the climate of the Tertiary period must have been much warmer than it is at present. Also on the lower Amur the same Tertiary red earth has been determined. "Grapes, cork trees, and tigers are vestiges of that time when the red earth was forming, while pines, firs, and reindeers harmonize very well with the present-day formation of soil of the podsol and swamp type," says Glinka (70).

70. Glinka, K. D. O drevnikh protsessakh vyvetrivanniia v Priamurie /On the Old Weathering Processes in the Amur Region/. Pochvovedniie, 1911.

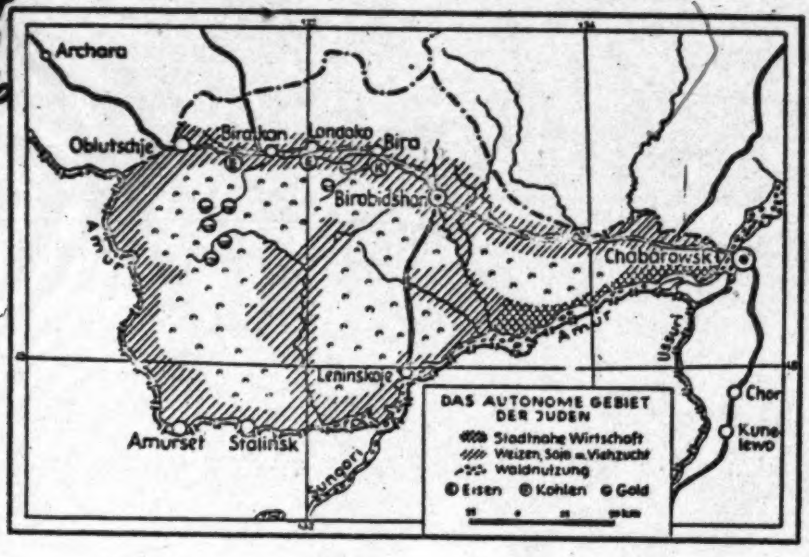
Region/. Pochvovedniie, 1911.

133 The northern part of the Zeya-Bureya plain lies generally below 500 meters above sea level and declines toward the lower Zeya and the Amur, /247/ /Sketch Map:/ /248/ where the greatest part lies at less than 200 meters above sea level. At Blagoveshchensk the Amur has a height of 120 meters. In individual places the substratum comes out from the flatly deposited Tertiary layers in the form of individual rocks, which consist of granite, Jurassic conglomerates and Jurassic sandstone, or also of porphyry.

The great dampness of the Zeya-Bureya plain, which arises from the excessive summer rainfall, leads in the unlevel regions to hanging landslips and solifluction phenomena of manifold types, which cause great difficulties in the construction of roads and installation of railroads, especially when--as, for example, in the country of mountain spurs--permafrost appears. The peasant fights constantly against threatening swampiness by draining his land. Despite these [311] difficulties, the area under cultivation is increasing continually. The swamps, which as a rule are covered with clusters of grass, are turned into hay fields by fires set off every year, and these hay fields in turn are then turned into cultivated land.

361 Settlement is very thick, and in the valley area of the Zeya, Selemdzha, and Bureya it penetrates farther and farther into the interior. In the plains one can often see from one village to the next one. The settlements differ in no respect from those in the Russian homeland. And when in mid-summer sunflower fields glow between the yellow gold of wheat fields, one might feel himself transported [244] to southern Russia. The cultivation of soy beans and perilla, which here lays claim to a significant percentage of the area under cultivation, [496] appears foreign, however. The railroad crosses the Zeya at Svobodnyy (10,000 inhabitants), where an active wood industry has developed. A branch railroad, which is 108 kilometers long, leads from Kuybyshevka with its more than 10,000 inhabitants to Blagoveshchensk (58,700 inhabitants), the capital of the region. The city extends along the shore of the Amur for a distance of almost 8 kilometers, toward the mouth of the Zeya. The Zeya here is 2 kilometers wide and exceeds even the Amur into which it flows. The city is the center of the entire agricultural area and has numerous flour and oil mills. In addition, the processing of lumber also plays a large role. The lumber is floated here on the Zeya and the Amur. Opposite Blagoveshchensk,

Sketch Map of the Jewish Autonomous Oblast:



Economy in the Vicinity of a City
Wheat, soy beans, with livestock
Exploitation of the forests
(E) Iron
(K) Coal
Gold

133 meadows on the river, otherwise they are covered with spotty clumps of grass. Where this grass is destroyed, the loose sand shows through, and the wind blows this together into dunes. The shores of the rivers are flat and predominantly covered with meadow, over which the high water extends. The old shore embankments are of greatest importance for human settlement; the broader ridges are as a rule plowed up and used for vegetable gardens, while the areas which become flooded serve as meadows or are used as hay fields. Now and again the entire plain is narrowed down by approaching mountains, or the plain widens to a great breadth with the neighboring depressions adjoining it. In such an area, in wide, swampy surroundings, lies the very flat Lake Bolon' which is 1,200 square kilometers and which is connected to the Amur by a broad water stream. The water level of the lake follows that of the Amur, and when the water is high even a backward flow is to be observed. At Komsomol'sk the hilly mountains come right down to the river on both sides and force the river into one continuous bed. Here ends the contiguous line of the real Amur plain with its magnificently flat relief, /257/ and an irregularly formed landscape begins. Nemerous rows of hills and chains of mountains with heights of up to 500 meters, indeed, even up to 900 meters, make the general picture more lively. The Amur again and again gains in area and widens often like a lake with numerous islands in the broad valley areas and forms in its neighborhood standing water in the form of long lakes in individual basins and old river beds. Despite this, the overall character of the far more broken up Amur plain is determined by the tributaries, which flow into the Amur from both sides in long, often curved, wide valley areas and which increase still more the degree of dividing up of the country. First to be mentioned in this connection is the valley of the Gorin, which extends into a broad depression in the hinterland and which conceals there the big Lake Evoron. Further down are the plains of the Limuri and Pilda; the area around the upper course of these rivers is known for its gold sands. Finally there is the extended valley of the Amgun which is more than 800 kilometers long. The general landscape picture changes its face but little toward the north. Meadow steppes, overgrown with high grasses, are also still typical here, even though the ground becomes ever damper toward the north and the swampiness increases. The same applies also to the appearance of broad-leaved deciduous trees within the forested areas; these forests represent characteristic mixed forests on the lower hills and mountains. In the direction of the

[311] [135] 133 137

the river. However, in contrast to the western side, the eastern side is narrow, and only somewhat wider at the mouths of the tributaries. On the other hand, the depression is also completely lacking in places, i.e., where the spurs of the Sikhote-Alin' go right down to the river. However, not only do these spurs interrupt the depressions, but they also often interrupt the hills and ridges which emerge from the flat alluvial plain and which are drier and as a rule have cultivated fields, villages, and forests. Therefore, there are only a few settlements along the river in the areas threatened by water. The real cultivated zone, which begins in the north already at Khabarovsk, always extends, for this reason, at some distance from the river bank along the country lying higher. The Ussuri Railroad also follows the higher land. Here the forest landscape and the forest steppe landscape have been cleared over an area 100 kilometers wide and have had to make way for the cultivated land, which extends in a considerable width especially in the regions around the lower courses of the Khor, Bikin, and Iman. The most important localities in these three depressions are Kondratyevka on the Khor, Bikin, and Iman, all three of which lie at the point where the above-mentioned rivers are crossed by the railroad. In the south the Ussuri depression flows together with the agriculturally important Khanka depression.

Khanka Lake lies 69 meters high and is 23,000 square kilometers in area, with its greatest length being 80 kilometers and its width being 40 to 85 kilometers. A narrow, sandy tongue of land in the north separates it from the so-called Little Khanka Lake. /267/ /Sketch Map//268/ South of this tongue of land the border crosses the lake, giving approximately a fourth of the lake to Manchuria. In the east the Sungacha forms the border. Khanka Lake is generally extremely flat, its greatest depth being 10 meters. It is surrounded by vast swamps and moors covered with reeds, and it is very much in the process of being filled up with sand. The western shores are formed from Tertiary loam and are, therefore, hilly and irregularly formed with numerous bays and peninsulas. Here to the west of the lake lie the regions, which, of all the areas near the lake, are most favorable for agriculture. The flat moors and swamps which otherwise surround the lake extend to the north for 10 kilometers, and toward the east and south they even extend 30 kilometers from the lake, thus indicating the one-time size and position of the lake. Where the swamps surrounding the lake are becoming somewhat drier, they are turning into meadows with high grass, thus giving a similar appearance to that of the Amur prairies of the Zeya and Bureya.

cultivated plants also flourish with great success. Very recently new sowing and cultivation machines have been employed by the Soviet in the entire Far Eastern region, which is damp in the summer. These machines take account of all the conditions of that area. In the expansion of the cultivated areas devoted to soy beans, rice, beans, millet, etc., it has been shown that there has been more conversion to these in more recent times, following natural conditions. The noxious fungus, which prefers to attack the European types of grain, such as wheat, barley, and oats, has already been pointed out. This grain disease occurs in those damp warm regions in especially rainy years. As Arved Schultz (181) has observed, it is very characteristic

181. Schultz, A. Das Ussuri-Land /The Ussuri Country/. Königsberg, Prussia, 1932.

that the fields of the Korean and Chinese peasants are attacked less than the fields of the Russians. There must, therefore, also be some reasons for this. In addition the fight against the Fusorien, of which a total of 22 types have been determined to date, has been taken up by the Soviet.

In contrast to the little populated eastern and southern sides of Khanka Lake, the Tertiary hilly country to the west of the lake is thickly populated and is among the best agricultural regions. A railroad line, which is 127 kilometers long, leads from the Ussuri Railroad into this region and ends right on the border in Turiy Rog at the northeastern end of the lake. On the eastern side of Khanka Lake, the cultivated zone, which continues from the north without interruption, follows the Ussuri Railroad in a broad line, and with broad spurs into the valley of the Daubikhe and Ulakhe, the cultivated zone also penetrates toward the east into the mountain range. South of the lake the cultivated zone takes up the entire area from the Manchurian border to the mountain spurs of the Sikhote-Alin' and extends in an area of almost equal width via the Suyfun depression toward the south to the coast, where on the west side of the Bay of Peter the Great it extends farthest to the south in the coastal plain.

The watershed between the Ussuri and the Suyfun is flat and scarcely makes an appearance morphologically. The Suyfun itself comes from Manchuria and crosses the border almost exactly at 44° latitude. Then it turns immediately toward the south to the sea. The valley area of the river is level and is accompanied on both sides

131 through Mongolia to China, routes which are no less important at present. For these reasons the inclusion of Transbaykal in the comprehensive overall concept of the "Soviet Far East" seems not only justified but even necessary for better understanding of how things fit together.

/12/ Through the Far Eastern regions the Soviet Union has a continental coast on the Pacific, which is more than 10,000 kilometers long, and through this she has become an important neighbor /Anlieger/. The outcome of World War II has brought the Soviet Union into possession of southern Sakhalin and the Kurils. With this the Japanese protective chain of the Kuril was eliminated, and the Sea of Okhotsk, with an area of 1,530,000 square kilometers, became for all practical purposes an internal sea of the Soviet Union; and it is now even officially regarded as belonging to the national sphere of the USSR. This pressure of Soviet power toward the Pacific Ocean has resulted in broader prospects of naval development for the Soviet Union than in the past, since the naval development had had to be limited to the continental coast. In this connection, Sakhalin Island, pointing [312] toward the Japanese island empire and separated from Hokkaido only by La Perouse Way, scarcely 50 kilometers wide, deserves special attention since, through a dam completed in 1952, it has been linked to the continent and for all practical purposes has become a part of the continent. With the southwest side of Sakhalin and the Maritime Krai, the Soviet Union now lies also on the Sea of Japan. Through her large section on the coast and through her possession of the islands extending in front of the coast, the Soviet Union has the prerequisites, not everywhere favorable but still sufficient, for developing into a Pacific sea power. Even though the Russians, being a continental people, have in the past always given preference to land routes, there are still numerous indications that the sea also is not foreign to them. If the Soviet Union still today does not take the corresponding position, that does not mean that it must always remain so. Pretensions to such a position have very probably been proclaimed in the intensive building up of the various harbors for military and trade purposes.

The greatest importance of the Far Eastern region for the Soviet Union lies in the fact that it guarantees access to the open sea to this strong continental power. Although the usefulness of the individual ports on the ocean within the Soviet Union's national territory is impaired and their importance reduced by unfavorable natural conditions, these ports exist, and their shortcomings have become a

000 even of raising it. However, this proposal has been tried out but little in practice.

132 134 312 /56/ In addition to the general water supply, the supplying of drinking water in the permafrost regions in winter causes many difficulties, especially for larger settlements. Since many rivers freeze to the ground, the water must often be gotten from far away. In many places artificially caused formations of ice on top of ice are used to help in smaller settlements. But it would lead us too far astray to go into detail here on the various and often also unique methods of procuring water.

132 134 316 The permafrost is also of great importance in connection with mining and with the extractions of natural resources generally. In pit mining the permafrost sets great hardness against the invasion of man. Even diamond drills fail sometimes, and, if the motor stops for even a moment, the drill freezes fast in the water of the hole being drilled. The pits and galleries are mostly firm and hold even without supporting beams, the danger of chokedamp is slight, and also ground water seldom appears, and only occasionally do water break-ins occur. In open mining the permafrost must be dynamited, but then the blocks knocked loose turn into bulky pulp. Gold extraction has to overcome special difficulties in the working of gold wash-works which mostly are in the permafrost and lie under a thick, unfrozen layer of earth which can be removed rather easily. In the most important gold regions the most modern machinery is employed to process the gold-bearing sand in one vein with everything from dredge to dressing-floor, but all these technically complete establishments conduct a difficult battle with the permafrost, whose hardness gives extraordinary resistance. The natural thawing under the air temperature of the summer proceeds so slowly that man must help it along. The primitive thawing with the aid of wood and coal fires has disappeared, and jets of water also do not suffice here. At present, steam is employed everywhere, and new announcements report that the use of electricity is being considered for the future.

132 134 The role played by permafrost in connection with vegetation is many sided, but the mutual relationships are still too little clarified. For the agrarian economy the permafrost is a more favorable factor as a source of ground dampness, especially in the interior which suffers from a shortage of summer rainfall. Here the dampness of the ground is a natural compensation. It is due to the exploitation of these favorable conditions that Soviet Russia has succeeded in spreading agriculture,

132 within 24 hours. These conditions, especially the paths of the cyclones, have still not been clarified in detail. The real rain period does not begin until early in July and lasts until the end of August. During this period there is rarely a week without several days of rain.

In addition to the already mentioned downpours, rainfall also occurs in the form of land rains. A very characteristic type has been designated as "subsequent rain" /Nachfolgeregen/ by Arseniev. This occurs when after a storm the day is sunny and still, and then in the evening rain falls again because of the condensation of the rising, very high humidity.

The abundant rainfall of summer causes the rivers to swell, and their high water occasionally spills over the banks, and often interrupts all traffic. In many places the water cannot flow off right away. It remains standing on the level fields. Grass areas turn into swamps. In the low, broad plains on the left side of the Amur, above [312] Khabarovsk, plains which were supposed to have been won for agriculture to supply the rapidly growing city, a large-scale system of drainage canals had to be created, not only in order to drain the ground but also in order to give the rainfall an easier opportunity to drain.

132 The great dampness along with the great heat endangers and decreases
241 the harvest of European types of grain. The grain shoots into grass but the corn yield is slight. The sprouting of the plants suffers from the dryness, while the blooming, ripening, and harvesting fall in the rain period. In this the dampness of the ground /66/Climate Diagram: Ulan Ude; Chita/ also plays a role, for, according to many reports, the yield of the grain fields in the hilly country on the mountain ridges and slopes is higher than the yield of the fields in the valley areas. The softening of the ground by the summer rains makes the use of machinery difficult, and this appeared as a restraining factor in the establishment of the kolkhoz system and the MTS (Machine Tractor Stations). In part steps had to be taken toward the construction of new machines. On the other hand

132 the climate fosters the development of vermin and fungus. The corns
137 of grain are not uncommonly attacked by a spore fungus (Fusareum roseum), which makes the bread "pianyi," i.e. drunken, as the Russians say, because when eaten it has an intoxicating effect and causes nausea. Fruit is distinguished by richness in liquid but by a poverty of sugar. The Manchurian-Chinese cultivated plants and the natural native plant world thrive especially. Characteristic for the forests is a rich underwood, but the trees--and this applies especially to the deciduous trees--are very susceptible to disease, often becoming hollow with internal

241 is still not sufficient to cover the deficit of the two other regions.

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Area Under Cultivation Per Person as of 1938

	Total Area Under Cultivation in 1000 hectares	Area Under Cultivation Per Person in hectares	Total Area Devoted to Grain in 1000 hectares	Area Devoted to Grain Per Person in hectares
Soviet Union	136,943.1	0.80	102,411.0	0.60
Buryat-Mongol ASSR	386.7	0.71	348.0	0.65
Chita Oblast	592.1	0.51	543.0	0.47
Khabarovsk Oblast	580.8	0.41	446.0	0.31
Maritime Krai	318.3	0.35	216.0	0.24
Transbaykal and the Far Eastern Region	1,887.9	0.47	1,553.8	0.39

241 No statistics of equal worth are available for judging the development of agriculture from 1938 to the present, since no such statistics have been published since then. Instead a great number of bulletins from the Soviet press are on hand; but these contain only isolated data of a general type, or special reports from highly variable areas or even localities. It is difficult to form an overall picture from all these reports, but it is the only possibility of being able to get at least a glance at the development.

241
311

Many reports speak of an immigration which benefits both the industrial and also the agricultural sector. Also the enlargement of the area under cultivation and the raising of production often form the subject of these reports, and in this the results of the last Five Year Plan, up to 1950, are especially emphasized. In the steppe regions of the Chita Oblast a beginning has been made in the introduction of artificial irrigation. As a beginning for this, numerous canals were dug in 1948 which irrigated 12,850 hectares. In the vicinity of the big cities the greatest attention /130/ has been devoted to the development of farming near the city and especially to garden farming. In the surroundings of Vladivostok the setting up of 1,560 hectares of garden area in 1948 was envisaged in the framework of a great plan. Also in the Khabarovsk area important wild areas are being converted into cultivated land so as to ensure the feeding of the growing city.

• B12

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(Captions to Map on page 235)

1. Baykal Daur
2. Nerchinsk Daur
3. Vitim Plateau and the northern mountain forest provinces
4. Olekma mountain country and the Olekminsk Stanovik
5. Oldoy-Zeya mountain country
6. Zeya-Bureya plain
7. Bureya mountain country
8. Amur plain
9. Sikhote-Alin'
10. Ussuri-Khanka depression
11. Sakhalin Island
12. Area of the Amgun and the Uda
13. Okhotsk coastal area
14. Provinces of the extreme northeast
15. Kamchatka Peninsula

responsible for 32 percent. On the Transbaykal side, in the area of 228
the Buryat-Mongol ASSR, approximately 30,000 double centner of
fish are caught annually; in good years even more than 35,000 double
centners of fish are caught. Thus a series of fishing settlements animate
the Transbaykal shore. The most important are Nizhne-Angarsk, 361
which lies on the extreme north east tip, Ust'-Barguzin at the mouth [355]
of the river of the same name, where there is also a fish canning
factory, and, south of this, Goryachinsk, which in addition to fishing [312]
is acquiring a growing importance as a health resort because of its hot
springs.

Baykal Daur

Baykal Daur begins in the west with the Khamar-Daban. This 133
mighty mountain massif, projecting up to 2,217 meters, follows the
southern shore of Lake Baykal. Along this shore, runs the railroad
which encircles Lake Baykal and which is forced to follow all its
windings. This mountain massif is little divided and has predominantly
soft forms with dome-like heights which are seldom rocky. These
heights, as Prassolov describes them (160), give the impression of being

160. Prassolov, L.I. Iuzhnoe Zabaykaliye /Southern

peculiar only to dry climates. At the foot of the Ikatskiy Mountain Range numerous warm springs bubble up; these springs contain above all sulphates. In addition there are mineral lakes, which, like the Alginsk lakes, lies in a basin of sulphate of soda of significant thickness. Below the locality of Barguzin the mountains come right down to the river and shut off the extended valley basin. Here begins the third part of the Barguzin Valley, the breach valley of the Barguzin toward Lake Baykal. On the right side the mountains press forward right to the river and present picturesque, alluring landscapes. On the left side, on the other hand, the mountains withdraw more or less /220/, making free a flat area along the shore. This landscape on the lower course of the river accompanies the river for almost 40 kilometers. Thus the Barguzin Valley presents an extremely remarkable landscape. Epsom salt lakes between alluvial swamps and lakes in the valley basins of rivers rich in water; wide development of sands with dunes and steppe vegetation; traces of desert-like disintegration; permafrost; warm springs; thick taiga on the circumference; snow-covered mountains in the background: all this shows a heaping up of contrasts such as is undoubtedly rarely found on the earth. The area around the upper course of the Barguzin has alluvial sands rich in gold. For the rest this area is traversed only by Tungus reindeer breeders. The other part of the valley basin is an island of settlements in the middle of uninhabited mountain forests. Numerous Russians and Buryat here devote themselves to the breeding of livestock and to very considerable agriculture with irrigation. The rivers coming from the side valleys of the mountain range are used especially for the irrigation of the fields. The center of the main area of settlement is the village-city of Barguzin, which always has several thousand inhabitants. This city lies on the river of the same name. The Barguzin River is also navigable from here down and, via Lake Baykal, it represents the sole connection with the outside world.

[133] [312] [135] [135] [361]

Just north of the mouth of the Barguzin the Svatoy Noz Peninsula adjoins the land. This peninsula forms an island which is 55 kilometers long and is transversed by two mountain ranges which are up to 1,587 meters high. Only later is this island joined to the shore by a flat narrow piece of land. The material for this is supplied by the Barguzin, the heaping up and the alluvium provide for the current and the waves of Lake Baykal. The original view that the peninsula is a continuation of Ol'khon Island has shown itself to be incorrect, as Busch has shown. On the contrary Ol'khon Island is an underwater ridge running to the

the section farthest in of the inner bay has been built up as a naval harbor and is closed to commercial ships. Additional harbor installations lie on the "Eastern Bosporus" and on the outer side of the Shkota Peninsula. In detail the harbor houses the following installations: 361 504

1. Krestovaya Harbor: It stretches at the foot of Krestovaya Mountain, which is 94 meters high, and has quays which are 486 meters long. This harbor is used especially in the winter since it is easiest to keep the waters open here.
2. The Egersheld, which is at the same time a quarantine harbor and which has a quay almost 950 meters long. Here the most active life prevails in the summer. This harbor is specially built up for the turnover of grain, and it has the most modern loading equipment and granaries.
3. The Harbor of the "Voluntary Fleet" (Dobrovolnyi Flot). It received its name from the Organization of the "Voluntary Fleet," which was founded in 1870 and which was the first to take up the task of connecting the mother country with the Far East.
4. The Customs Pier and the so-called "Wide Mole," which takes up the northwestern angle of the Golden Horn.
5. The Commercial Pier with the "Wide Pier" (Shirokiy Pir) on the southern side of the bay. This has extensive track installations and the largest storehouses. The quay installations are 1 kilometer long.
6. The Wood Harbor, which lies somewhat farther south on Cape Churkin.
7. The Ussuri Railroad Harbor on the western side of the Shkota Peninsula. This has extensive installations for oil and petroleum.
8. The Semyonovskiy Bazar, which likewise lies on Amur Bay. It serves coastal traffic predominantly.

All the quay installations together have a total length of more than 4 kilometers, and the network of tracks, which span the harbor and all its installations, is 335 kilometers long (1937). From 1933 to 1939 there was a further building up of the harbor, and thus it is in a position to handle an annual turnover of 4 to 5 million tons. In the first period of the development of Vladivostok, the supplying of water caused some difficulties. But these have now been overcome by means of a large water storage installation on the /275/ /Sketch Map of the Harbor of Vladivostok/ /276/ so-called "Second Little River" (Vtoraya Rechka) and by means of the filtering installation, holding 100,000 tons, on the inner edge of Ulis Bay, into which Lipovyy Brook flows. 361 3120

133 andesite type (172). Not far from the last volcano mentioned, the

172. Savrinkii, A. N. Piat' let geologicheskikh isledovanii Kamchatki /Five Years of Geological Research in Kamchatka/. Problems of Soviet Geology, 1935.

mighty but quiet Koryatskaya Sopka rises to a height of 3,457 meters, and next to it is the Sopka Zhupanova (2,929 meters). South of Avacha Bay the mountain range has many valleys because of the rivers streaming off radially in all directions; but down to the southern tip of the peninsula smaller extinguished and active volcanos lie on the mountain range. The height of the mountains here rarely exceeds 900 meters. The last group of volcano mountains, with the Ilinskaya (855 meters) and the Kambal'naya Sopka (1,615 meters), rises over an extensive region of mountains, which are gently inclined and like ruins, in the extreme south around Kuril'skoye Lake, which is 306 meters deep and which represents an old crater.

312 Related to the phenomenon of volcanos is Kamchatka's wealth of warm mineral springs. Of these the Nalychevkiye springs between Avacha Bay and the Sopka Zhupanova are worthy of note. These springs come from an andesite layer with a temperature of 72°, and they contain a great deal of borium and arsenic, which is deposited in terraces. Interesting pictures develop in the winter when the steam rains down in the environs and forms fantastic ice figures.

133 The east coast, in contrast to the west coast, is richly divided up by inroads. The projecting peninsulas mostly end with a steep, rocky descent to the sea. The bays, on the other hand, have a broad, flat, treeless strip, which has its greatest size at Litke Bay. Avacha Bay, too, on which Petropavlovsk lies, is surrounded by a coastal plain, which, however, is narrower here.

[32] Enclosed by the high lines of mountain ranges, which protect it from the damp, cold, foggy, snowy, and rainy climate of the coastal sides, the central Kamchatka valley is distinguished by a more continental /298/ climate, which, dispite the harsh winter, is found more pleasant by man than the constantly damp coolness of the coast. The river valley itself is swampy but it is accompanied by a grass steppe, occupied by a spotty stock of birches. This grass steppe offers good conditions for breeding livestock and is not unfavorable even for agriculture. After the break-through to the east the Kamchatka River ends in a wide, treeless delta, which has a special economic significance because of

The greatest part of the population was concentrated on the southern islands, where limited cultivation of rye, wheat, barley and types of vegetables is possible. The principal occupations of the inhabitants--if we can judge from conditions before 1945--were, however, fishing and the hunting of sea mammals. Every summer the population was enlarged by around 10,000 fishermen, who came from Japan and occupied the islands for the catching season. In terms of the value of its yield, fishing was in first place by far, but the catching of walruses also played no insignificant role. The whales, after their summer stay in the Bering Sea, moved along the Kurils in the fall to their winter places in the southern part of the Sea of Okhotsk. In addition, seals and sea lions were also hunted.

After the islands were taken over by the Soviet Union and the greater part of the Japanese had been evacuated, numerous central fishing stations were founded on the islands. Furthermore, a walrus-catching fleet was stationed there, and a walrus-processing works was erected on one island. It is also planned to take up the breeding of fur-bearing animals such as the Japanese had begun.

Because of their volcanic character, the Kurils have numerous hot springs, which for the most part contain minerals. In natural resources the Kurils are poor; only a few of the islands contain rather large sulfur deposits. Exploitation of these deposits for the Soviet economy is being considered.

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II. Collected Works With Various Authors

1. Aziatskaia Rossiia /Asiatic Russia/. Collection, processed by the

311 Approximately 65 percent of the forests consist of wood ready
137 for cutting, i.e. the trees are over 100 years old. These and the above figures should be regarded as only estimates; for a large part of the forested area has neither been investigated nor has a count of the supply in the forests been made. What large tasks are still to be resolved here and also in the other Far Eastern regions is shown by the figure given by V.F. Panayev for the year 1936: he said that at the time only 18.4 percent of the total forested area in the Buryat Mongol ASSR had been explored. (12)

12. Problemy Buriat-Mongolskoi ASSR /Problems of the Buryat-Mongol ASSR/, Works of the First Conference for Exploring the Productive Powers of the Buryat-Mongol ASSR, 2 vols., (Moscow-Leningrad, 1935-36), Vol. II.

313 The use of the wood is determined in terms of area by the development of transportation. The exploitation of the forests is limited to the area of the Selenga and its tributaries, which carry down the cut wood for the most part to Ulan-Ude or Il'inskoye for processing. The forests are also exploited in the regions near the shores of Lake Baykal, where wood processing industries have arisen at the mouths of the Barguzin and of the Upper Angara. The most important plant in this area is in Mysovsk /now: Babushkin/, where a great lumber works with sixteen saw sashes is situated /saw frame/. The railroads should also be mentioned as the last supplying line for exploiting /171/ the forests, while all the remote forests still remain in their natural state.

311 In Chita Oblast the forest conditions are similar, but here the
313 percentage of actual forest is somewhat greater than in the Buryat-Mongol ASSR. The exploitation of the forests is limited to the regions near the railroad and to the areas neighboring on the Amur and its tributaries. The main processing centers are Chita, Khokhotuy, and Bada.

311 The percentage of forested areas in the other Far Eastern regions appears slight, being 37 percent for the forested areas and 21 percent for areas actually stocked with trees. This is explained by the fact that to these regions also belong the areas of the northeast, such as the Chukchi and Koryak peninsulas, the Okhotsk coastal area, and Kamchakta, which in part are completely without forests or have only slight forests. This is also explained by the great difference between the general forest potential (104.2 million hectares) and the area stocked with forest

forests here is estimated to be 6.5 billion cubic meters, of which 5.4 billion cubic meters consist of coniferous wood.

The entire river network of the Amur, with its numerous tributaries which are navigable by ships and rafts, facilitates the exploitation of the forests, and accordingly a significant wood industry has been able to develop in the Amur and Ussuri regions. Khabarovsk and the surroundings are regarded as the base of this industry. From there the bulk of the wood-processing industry extends to the south, following the leading line of the Ussuri and always lying on the tributaries of the Ussuri. Here, from north to south, lie the wood centers of Khor, Dormidontovka, Bikin, Lesopil'nyoye, Lesozavodsk, and Vladimirovka. Another base for the wood industry is formed by Vladivostok and its environs with the towns of Okeanskaya, Shkotovo, Lukyanovka, and Tigrovka. Sovyetskaya Gavan' has very recently become the most important wood-processing center on the coast of the Sea of Japan. Komsomol'sk has received a large works for producing cellulose and paper. Aleksandrovsk on Sakhalin and Petropavlovsk on Kamchatka have in the last few years also been equipped with wood-processing plants.

The total amount of wood cut has increased significantly in comparison with the period before World War II. According to careful estimates, the amount of wood cut during the year of 1952 can be assumed to be 5 million cubic meters in the Buryat-Mongol ASSR, 6 million cubic meters in Chita Oblast, and 30 million cubic meters in the other Far Eastern regions. Considering all the circumstances, this estimate is more likely to be too low than too high.

The Soviet Union has acquired an important supplement to its wood economy by its acquisition of southern Sakhalin. The Japanese had built up an excellent wood industry, which before the war consisted of 68 saw mills and 11 large cellulose and paper factories. Karafuto exported annually to Japan more than 1.2 million cubic meters of wood and many times the value of this wood in cellulose and paper. What importance the wood-processing industry had for the economy as a whole is indicated by the industry's share, in terms of value, in the total production of Karafuto. The share of industry in Karafuto's production was approximately 60 percent, and of this 60 percent the cellulose and paper factories alone provided around 90 percent, and the entire wood-processing industry 92 percent. All this now stands at the disposal of the Soviet Union.

361 this city almost 25 percent of the total population of the Buryat-Mongol
[391] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole Far East. Supported by the Buryat's important breeding of livestock,
[253] the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large
[323] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a rail-
[376] road, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here
● [313] again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over
487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak
491 (Chinese: Maimachen). This overland route, expanded into an auto-
496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this
491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

means of transportation. They have built 653.2 kilometers of railroad lines, and in addition they have improved the land roads, too, so that they can be traveled regularly by buses. However, this opening up to traffic has generally been limited to the regions near the coast and to the most southerly part of the island, while the greatest part of the interior, as in northern Sakhalin, remained left to itself. Now the most important coal deposits also lie not far from the coast, and the Japanese succeeded in bringing production in a large number of mines up to approximately two million tons by the beginning of the last war. Of this 500,000 tons could be exported to Japan. The remainder was used in Sakhalin, above all in the wood industry, which had been developed on a large scale by the Japanese. Since 1929 the Japanese had gone about, in a planned fashion, the building up of a cellulose and paper industry in southern Sakhalin, in order to be able to supply their home economy with these products. At the end, just before the outbreak of war, there were eleven large cellulose and paper factories in the country, and their production constituted almost 90 percent of the industrial production of southern Sakhalin. The share of these factories in the total production of Karafuto was around 60 percent. In addition, southern Sakhalin delivered large quantities of wood as cut wood and raw lumber. Southern Sakhalin was also very important to Japan as a base for fishing, which produced rich surpluses. However, in one thing the Japanese did not succeed: the securing of food for the population from the island itself. In this particular Sakhalin was an importing region, although the Japanese made every effort to expand agriculture and the breeding of livestock.

/283/ After the evacuation of the Japanese and the taking over of southern Sakhalin by the Soviet Union, the Soviet Union has striven to fill the land with people and to get the economy's production going again. On this there are numerous reports, which tell especially of the founding of kolkhoz and sovkhoz. In addition there are constant reports on the establishment of fishing stations and of fish-processing central stations, but there are only a very few reports on the taking over of coal mines and of getting them into production. There is little information on the installations of the wood industry, although it is to be assumed that the Soviet Union has above all laid value on getting the industrial plants into production, and apparently, too, everything has been done so that these plants could take up their production again.

world. The crabs are extraordinarily large and attain lengths of half a meter and more. They are drawn up from the bottom of the sea in drag nets in which they get entangled. Worthy of mention in this connection are the floating crab canning factories, which are used on the west coast and which carry out on board all the work from catching to canning.

The capital of the peninsula is Petropavlovsk. The city lies on Avacha Bay, which freezes over only exceptionally. The bay is surrounded in a semi-circle by the panorama of high volcanos. The city's favorable natural harbor, which a short while ago got a shipyard with a dock for ships of up to 5,000 gross registered tons, gains more and more in importance since the ships of the Northern Sea Route spend the winter here before they start out on their trip to the north. This applies especially to ships which regularly travel to the Kolyma River in order to ensure supplies of heavy materials to the gold regions on the upper course of the Kolyma. Petropavlovsk is the center of the hunting of sea animals and of the industries connected with this. In addition, the city also has fish processing installations, a brickyard, saw mills, and a can factory, which is of especial importance since it supplies the necessary material to all the smaller fish processing localities. In the treeless delta of the Kamchatka River lies Ust'-Kamchatsk, the next most important locality on the peninsula. More than 2,000 workers /302/ work in the canning factories there in the summer. The locality, in addition, has a special importance as the gateway to the interior of the peninsula, which can be reached easily only through the Kamchatka valley, while the other approaches have to overcome difficult passes. In increasing measure also wood is floated down the Kamchatka River to the coast, where it is processed in and sent on from Ust'-Kamchatka. In the broad longitudinal valley of the Kamchatka there are a series of villages, among which Verkhne Kamchatsk and Mil'kovo should be mentioned. In this area removed from the coast, horses are kept, since supplying fish food for dogs causes difficulties. At the inner entrance to the cross valley, at the foot of the largest volcano cone, lies the village of Klyuchi, from which the volcano receives its name. Here the traffic lines from the interior merge and make the locality into a central trading place, especially for fur goods. In addition to Russians and Koryak, some Chinese and Koreans have also settled here. Klyuchi has a scientific observatory for the study and special observation of the Klyuchevskaya Sopka. Below the village the Kamchatka widens into a sea decorated with islands.

•315 The importance of oil extraction for the Far Eastern regions of the Soviet Union cannot be overestimated. The oil industry supplies the industrial regions in the interior as far as Transbaykal, all ocean and coastal shipping, and also the Far Eastern army. Without the oil of Sakhalin the Far Eastern region would have to import oil from overseas or from the European part of the Soviet Union. In the latter case the oil would have to be brought on the Siberian Railroad over a distance of 7,000 to 8,000 kilometers.

The oil industry in the Far Eastern region is included in the independent trust Sakhalinneft. The oil field at Okha is connected with the oil harbor at Moskal'vo on the western coast of the island by means of a railroad and an oil pipe. From the rest of the oil fields the oil is taken over on the coast by tank ships. Apart from two rather small refineries which are supposed to exist in Okha and in Moskal'vo, the bulk of the oil is processed on the mainland in the oil refineries of Vladivostok, Khabarovsk, and Komsomol'sk. An additional oil refinery is known in Ulan-Ude. Very recently Khabarovsk and Komsomol'sk have received modern cracking installations. The production capacity of the refineries in the two last named cities is estimated to be 1.2 million tons, and the cracking capacity is estimated to be 600,000 to 700,000 tons. An oil pipeline planned and required for a long time, is under construction, or is probably finished at present: it is to bring together all the oil extracted on Sakhalin and conduct it to the mainland to Komsomol'sk and Khabarovsk. The dam completed in 1952 between Sakhalin and the mainland will undoubtedly carry a part of this pipeline. Hassmann (80) reports in this connection that the oil

> 80. Hassmann, H. Erdöl in der Sowjetunion /Petroleum in the Soviet Union/. Hamburg, 1951.

pipe line is to lead from Okha to Nikolayevsk and then along the Amur via Komsomol'sk to Khabarovsk.

The total supply of petroleum in the former Russian part of Sakhalin Island is given at around 150 million tons. (2) /The footnote

> 2. Atlas der Vereisungsverhältnisse Russlands und Finnlands, /Atlas of Russian and Finnish Glaciation Conditions/ Prepared by the Deutsche Seewarte, Issued by the Oberkommando der Kriegsmarine (1942), Vol. II, p. 14.

reference here seems to be in error. Presumably the author meant to

315

refer to footnote number 3:--translator/ The total production of

3. Atlas energeticheskikh resursov SSSR /Atlas of Sources of Energy in the USSR/, //Collected work under the editorship of A.V. Vinter, G.M. Krzhizhanovskii, and G.I. Lomov, 2 vols. (Moscow-Leningrad, 1934), Vol. II, p. 14/

Sakhalin Island, including that of the Japanese concession, amounted to 562,000 tons in 1938, but the Russian production, as numerous investigations have determined (59), could easily have been increased

59. Federov, S.F. Neftianyie mestorozhdeniia Sovetskogo Soiusa /The Petroleum Supplies in the USSR/. Moscow, 1939.

if it had not been limited by the shortage of means of transportation. According to the same source (59) the Soviet production in the same

59. Federov, S.F. Neftianyie mestorozhdenii Sovetskogo Soiusa /The Petroleum Supplies in the USSR/. Moscow, 1939.

year was only around 356,000 tons. According to Hassmann (80), the oil

80. Hassmann, H. Erdöl in der Sowjetunion /Petroleum in the Soviet Union/. Hamburg, 1951.

production in the last years after the war developed as follows:

1946	882,000 tons
1947	1,030,000 tons
1948	845,000 tons
1949	1,000,000 tons
1950	1,200,000 tons

One of the last success reports stated that the oil production of Sakhalin in 1952 exceeded that of 1948 by 65 percent. On the basis of the above figures, then, the oil extraction on Sakhalin in 1952 would have amounted to 1,396,200 tons. However, the above figures on the development in the post-war period are regarded as too low, especially the output for 1948 and the following years. Accordingly a total production for 1953 of 1.8 to 2.0 million tons cannot be regarded as being too high.

133 [137] which consists of recent and post-Pliocene deposits and which for the most part is covered by a tundra vegetation interlarded with bushes. The extent of this plain varies, being largest in the north around Sakhalin Bay. The plain ends in a 2 to 6 meter step which is delineated rather sharply everywhere. With this step the hill country then begins. This hill country as a rule bears a thick taiga consisting of spruces and larches. The watershed regions are scarcely perceptible in the relief, but they show up in thicker and higher forest growth. In places the hill country step also goes to the coast itself and then forms a higher, steep slope, which can reach 15 to 26 meters. (207) Taiga and sea

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, (Odessa, 1923), Vol. II, p. 266.

then come very close to one another.

Schmidt Peninsula, so named in honor of the well-known Sakhalin explorer, forms the extreme northern end of Sakhalin. This peninsula forms in miniature a true model of the geological and tectonic structure of the southern section of the island, with even the intrusive phenomena being the same. Here, too, we find an eastern mountain range and a western mountain range with a depression lying between. In the "Tri Brata," the "Three Brothers," the eastern mountain range reaches a height of 708 meters. For the most part this range declines steeply to the sea, and in the north it forms the rocky Cape Elizabeth, the most northerly point on Sakhalin. The western line of mountains, which likewise declines steeply to the sea, attains a height of only 406 meters. The depression lying in between ends in the north with a lake, which is separated from the sea by a narrow tongue of land. On the land narrows which connects Schmidt [315] Peninsula with the main part of the island lies the oil fields of Sakhalin which today have the richest yield.

Sakhalin's coast is generally but little divided up. In contrast to the more contiguous western coast, the northern coast and the east coast represent typical coasts with alluvial lands and numerous fresh-water lakes. Baykal Bay in the northern part of the island represents [305] the largest fresh-water lake. It can be traveled by coastal ships with a draught of up to 3.5 meters. Here on the eastern side of the bay lies Moskal'vo oil harbor, which has a railroad connection to the oil region in the eastern part of the peninsula. Still more strongly marked

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

(previously N.K.V.D.). Under the general direction of the latter a powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

The activities of the Dalstroy are many-sided. The 'Mining Administration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

The colonization activities of Dalstroy have changed the character of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

311 The excess of dampness in vegetation season is a handicap even for agriculture and makes difficult the extension of the cultivated areas. New land for cultivation must as a rule be won laboriously from nature by drying it out. More and more the extended Zeya-Bureya Plain and the area along the Amur have become quite thickly settled, and large parts of the famous "Amur [162] Prairie" have been transformed into cultivated land. It is predominantly Russians who live here. The Chinese who immigrated here earlier have been pushed back over the Amur--in part by force. In all the rest of the area, however, /30/ untamed nature dominates the landscape, which is traversed at most by a few Tungus or Russian hunters. A wealth of gold has lured numerous Russians into this 316 wasteland, too, especially in the area around the upper courses of the left tributaries of the Amur. A locally very active gold industry has come into existence, which today is organized by the state and which has drawn even this distant region into the economy.

133 The Ussuri country is divided into two completely different parts: the huge mountain mass of the Sikhote-Alin', which fills the entire area from the Bay of Peter the Great in the south to the mouth of the Amur in the north; and the Ussuri-Khanka lowlands, which extend west of the Sikhote-Alin' in the same direction and continue south of the Khanka Lake without marked interruption as far as the Bay of Peter the Great.

The Sikhote-Alin' is a forest-covered, strongly valleyed /zertaltes/ mountain mass, which is divided into several ridges running parallel to the coast. The shapes of the mountains are soft without especially marked edges and projections. More often plateau-like shapes predominate here, too. The heights in general lie between 650 and 850 meters; the valleys, however, are deeply carved out. Rising slowly from the west, the mountain mass descends steeply to the sea and only rarely leaves free a narrow coastal indentation plain on which there arises small, poverty-stricken fishing villages. The nearness of the sea crossed by a cold stream causes a cool, foggy, rainy, unfriendly summer, thus producing similar conditions to those found on the entire coast extending to the north beyond Okhotsk. Swampy valleys and forests dripping with a cool dampness and with a more northern stamp are typical marks of this area.

132 The western side of the Sikhote-Alin' and the Ussuri-
137 Khanka lowlands, on the other hand, correspond more to the Amur country. Warm to hot summers joined with high rainfall and a

strong inclination to marshiness are distinguishing marks for this area. The Sikhote-Alin' stretching parallel to the coast keeps back the coolness and also the fog from the sea and allows the sun to have a stronger effect. Everywhere the more southerly position makes itself apparent. In the forests of Sikhote-Alin' deciduous trees appear more and more in the foreground, increasing toward the south, until finally, in magnificent specimens, they form the sole type of tree. In the cultivated zone, too, which stretches along the entire lowlands, typically Manchurian-Chinese plants become noticeable in increasing measure toward the south. Kaoliang and other millet, soya beans, and rice appear noticeably on the scene. There is a change in the population, too. In the northern part of the lowlands, as far as Khanka Lake, Russians and Ukranians predominate; in the extreme south, Chinese and Koreans are in the majority. The Ussuri-Khanka lowland is relatively thickly settled, the Sikhote-Alin' itself, on the contrary, is in large areas as good as uninhabited, except for some mining areas in the south, where /31/ coal primarily is mined. Native Tungus traverse the Sikhote-Alin' in smaller numbers than in the old days, and in addition there are Russian hunters and Chinese collectors, who are looking for secret, legendary plants.

Sakhalin Island stretches over 950 kilometers in a meridional direction. The southern part is traversed by two parallel mountain ridges, which are separated from one another by a relatively wide depression. The eastern mountain chain is shorter but higher, and its peak of 2,013 meters is the highest elevation on the island. Toward the north the mountain ridges flatten out and give way to a hilly plain. The cool, foggy air masses blow unhampered over the land here, while in the south a difference in climate is caused by the mountain chains. The eastern slopes are cool, rainy and unfriendly, while the western side appears somewhat milder. The southern parts of the island, which were Japanese from 1905 to 1945 and only now have again become Russian , are generally more favorable. In terms of its landscape, Sakhalin can be designated a damp, cool, forested mountain country, but in numerous places treeless moss steppes appear, which recall the tundras of the north. Once feared as a Russian prisoners' colony, Sakhalin is advancing economically more and more because of its petroleum and coal resources.

The Okhotsk coastal area begins at the Uda Bay and encompasses, in a narrow coastal strip, the Sea of Okhotsk as far as Penzhina Bay in the extreme northeast. In the western part, which stretches

000 even of raising it. However, this proposal has been tried out but little in practice.

132 134 312 /56/ In addition to the general water supply, the supplying of drinking water in the permafrost regions in winter causes many difficulties, especially for larger settlements. Since many rivers freeze to the ground, the water must often be gotten from far away. In many places artificially caused formations of ice on top of ice are used to help in smaller settlements. But it would lead us too far astray to go into detail here on the various and often also unique methods of procuring water.

132 134 316 The permafrost is also of great importance in connection with mining and with the extractions of natural resources generally. In pit mining the permafrost sets great hardness against the invasion of man. Even diamond drills fail sometimes, and, if the motor stops for even a moment, the drill freezes fast in the water of the hole being drilled. The pits and galleries are mostly firm and hold even without supporting beams, the danger of chokedamp is slight, and also ground water seldom appears, and only occasionally do water break-ins occur. In open mining the permafrost must be dynamited, but then the blocks knocked loose turn into bulky pulp. Gold extraction has to overcome special difficulties in the working of gold wash-works which mostly are in the permafrost and lie under a thick, unfrozen layer of earth which can be removed rather easily. In the most important gold regions the most modern machinery is employed to process the gold-bearing sand in one vein with everything from dredge to dressing-floor, but all these technically complete establishments conduct a difficult battle with the permafrost, whose hardness gives extraordinary resistance. The natural thawing under the air temperature of the summer proceeds so slowly that man must help it along. The primitive thawing with the aid of wood and coal fires has disappeared, and jets of water also do not suffice here. At present, steam is employed everywhere, and new announcements report that the use of electricity is being considered for the future.

132 134 The role played by permafrost in connection with vegetation is many sided, but the mutual relationships are still too little clarified. For the agrarian economy the permafrost is a more favorable factor as a source of ground dampness, especially in the interior which suffers from a shortage of summer rainfall. Here the dampness of the ground is a natural compensation. It is due to the exploitation of these favorable conditions that Soviet Russia has succeeded in spreading agriculture,

knowledge of the wealth of this region were spurs to pushing recklessly forward in the exploitation by using work camps. As a consequence, the Kolyma area today is among the most notorious regions in the Soviet Union, and is one of those most feared, because of the harshness of its climate. 135

For the opening up of this area building was done on the harbor and city of Magadan on Nagayevo Bay. The inhabitants of this city today are estimated to be 50,000. A highway was laid out to connect with the gold fields; by 1940 this highway had already attained a length of more than 700 kilometers, and it connected all the important mining centers. The road is kept usable for trucks the whole year through. The supplying of the entire area is done via the sea route, for the most part via Magadan, and for the rest from the north via the Kolyma. Since these connections, however, are closed off by ice for more than six months during the long winter, they proceeded to create a permanent land connection by building a highway from the center of the gold district to Yakutsk on the Lena. Of considerable importance for the development of this regions is also the fact that hard coal has been found on the Kolyma in the vicinity of the town of Verkhne-Kolymsk. Some Sovkhoz have been founded as a local source of supply for vegetables, milk, and fresh meat. [491]

The main gold fields lie west of the Buyunda, a /169/ right tributary of the Kolyma, primarily in the area of the Srednikan and Orotukan rivers. At first only the very productive gold streams were exploited, but then the mining of mine gold was also taken up. Mine gold is especially rich in the mountains on the Srednikan, on the Utina, and on the Khatynakh. The most important centers of the gold district are Srednikan, Orotukan, Khatynakh, and Seymchan.

Gold extraction in the Kolyma region developed as follows in comparison with the total production of the Soviet Union (Figures are in 1,000 kilograms): 316 433

	1933	1934	1935	1936	1937	1938	1939
Soviet Union	83.0	120.0	149.0	163.0	176.0	192.0	210.0
Kolyma Region	0.3	1.2	8.0	12.3	20.0	30.0	51.0
Percentage of the whole supplied by the Kolyma Region	0.4	1.0	5.4	7.5	11.3	15.6	24.3

(Table continued on following page)

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433

	1940	1941
Soviet Union	225.0	240.0
Kolyma Region	51.0	55.6
Percentage of the whole supplied by the Kolyma Region	22.7	23.2

The share of the Kolyma region has risen to almost 25 percent of the total extraction done in the Soviet Union. According to definite plans, gold production in the Kolyma area is to be raised to 75,000 kilograms. Friedensburg, in his book on "Gold" which appeared recently, has collected together in a table of figures (63) all estimates and

63. Friedensburg, F., "Gold," Die Metallischen Rohstoffe /Metallic Raw Material/, Vol. 3, 2nd edition (Stuttgart, 1953), p. 178.

reckonings on the total gold extraction in the Soviet Union. With justice he points out the confusion that rules on this question even in foreign agencies versed in such affairs. Nevertheless, I do not shy from bringing the above table which rests on my own sources. The present production may be assumed to be approximately 250,000 kilograms (1952). In any case, it is certain that the Kolyma region stands at the head of all gold fields in the Soviet Union. According to the supplies explored, mining is assured for 15 to 20 years if the extraction remains at 75,000 kilograms.

The Forests and the Use of Wood

311 The forests of Transbaykal and of the Soviet Far Eastern regions are, by European standards, as large as countries. The forested area covers around 1,800,000 square kilometers. While the Far Eastern regions contribute around 17.5 percent of the total area of the USSR, these regions provide 21 percent of the total forested area.

The distribution and extent of the forests in the Soviet Far East are shown in the following table:

(Table on following page)

deposits can be reckoned among the richest in the Soviet Union. Thus, here in the middle of a remote wasteland a small industrial area has come into being, whose center is the town of Gorodok and which already has more than 10,000 inhabitants. The center is a large wolfram-molybdenum works with modern mines, ore dressing installations, conveying and suspension railroads. The valley slopes here are still grown over by thick taiga. However, toward the east the forest withdraws from the lower slopes, which appear far from one another and form an extensive grass steppe area, which merges with the Selenga steppe without interruption. The valley of the Dzhida is bordered on the south by the Dzhidinskiy Mountain Range named after the river. The Mongolian border runs along the watershed of this mountain range.

The Khamar-Daban continues toward the east with dimensions which become smaller morphologically and geologically. However, the Selenga, which breaks through the mountain in a narrow valley, is usually considered to be the eastern border of the Khamar-Daban. The Selenga circumscribes the eastern part of the Khamar-Daban and empties into Lake Baykal in a broadly projecting delta.

/213/ /Sketch Map of the Buryat-Mongol ASSR:/

/214/ The Selenga Delta is a heaped up plain /Aufschüttungsebene/ which on the mean lies 7 to 8 meters above the water level of Lake Baykal, to which the delta slopes in terraces. The lower terrace, which already bears sea deposits, is completely flat, while the remaining parts are gently rolling. The northeast, the real present-day delta, is traversed by numerous dead and living arms of the Selenga, while the southwest is flowed through by some tiny little rivers, which come directly from the Khamar-Daban. In terms of its landscape, the delta represents a dry steppe, in whose lower, sunken-in parts swamps are imbedded. The delta is fairly heavily populated by Russians and Buryat, who pursue both fishing and agriculture. Irrigation is used in the agriculture. The center of this area is Kabansk, where the railroad coming from the west touches the Selenga for the first time. The products of the fishing are stored here in modern cold storage installations and made ready to be transported away.[1]

From here the railroad uses the valley of the Selenga and reaches Ulan-Ude, the capital of the Buryat Republic, above the break-through by the Khamar-Daban. The city lies on the right bank of the Selenga at the mouth of the Uda, which is navigable by rafts. In 1926 still a small, dusty steppe town with 29,918 inhabitants, Ulan-Ude by 1939 had become a modern industrial city with 129,419 inhabitants. In

[1] [i.e. Kabansk -- Analyst]

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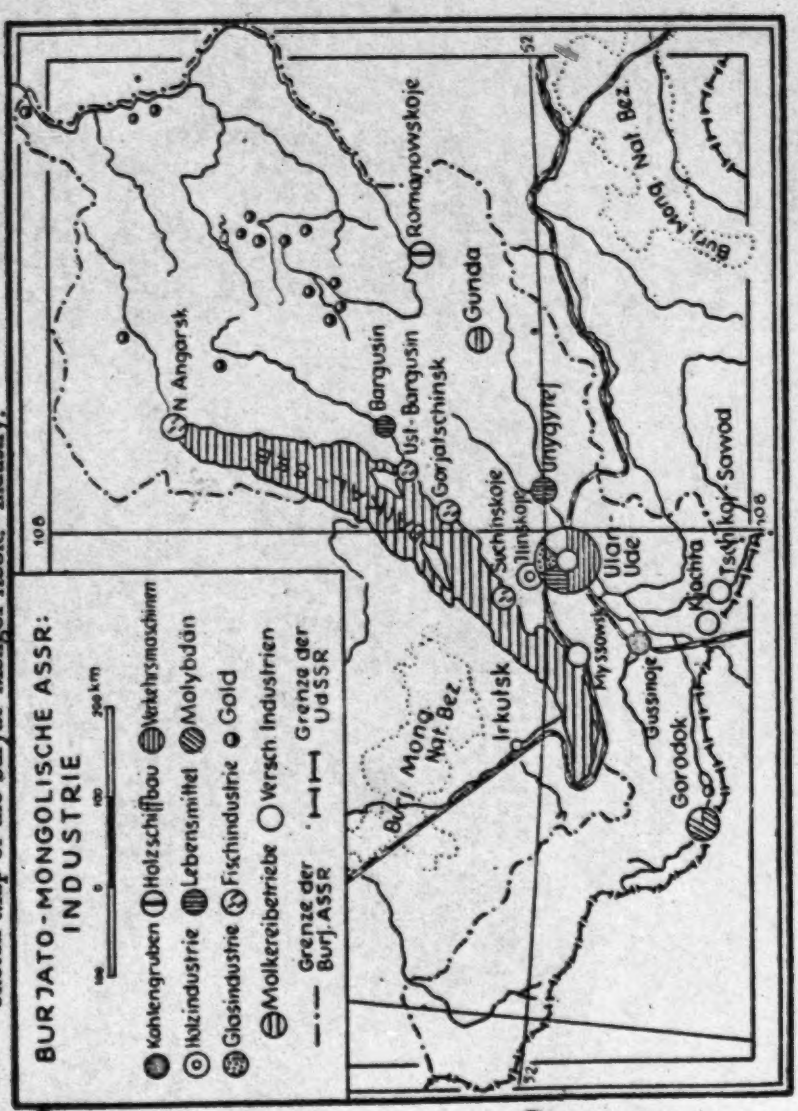
Sketch Map of the Buryat-Mongol ASSR: Industry:



- Coal Mines
- Construction of wooden ships
- Transport machinery
- Wood industry
- Groceries
- Molybdenum
- Glass industry
- Fish industry
- Gold
- Dairy plants
- Various industries

/215/

- Border of the Buryat ASSR
- Border of the USSR

133 these hollows, as a rule, the rivers find their origin.

Southeast of the Yablonovyy Ridge and its western continuation, the already-mentioned Malkhanskiy Mountain Range, there extends the rather wide valley of the Chikoy and of the Ingoda, which is for
361 the most part settled by Russians. Here the Russian villages lie along the rivers like pearls on a string, while only a few kilometers away there stretch mountain forests which are still uninhabited. The best connections to these areas of settlement are from the railroad stations of Khilok and Mogzon.

The capital of the region, Chita, lies at the point where the Chita River flows into the Ingoda. After the construction of the railroad line, Chita quickly developed from a small town into a large city, which by 1939 already had 102,555 inhabitants, and at present its population probably already exceeds 150,000. The city is built on both sides of the river of the same name, and, lying 660 meters above sea level, the city rises like an amphitheater on two terraces of the land rising toward the north. It lies in a dry, healthy region. Chita constitutes the economic center of the entire region. It is especially known for its fur and leather processing. In addition, there are concentrated in the city important flour mills, saw mills, and
•[216] rather large repair shops for locomotives and railroad cars. A few
[217] kilometers west of the city lies the Chernovskiye Kopi, one of the most important coal districts in the area. Natural calcinated soda is extracted from the Doroninskoye Lake, which lies further up in the valley of the Ingoda.

133 From Chita the Ingoda breaks through on the southeast first the Cherskiy Mountain Range and then the Daur Mountain Range, and, then again bending in the direction of Lake Baykal, it finally follows the depression between the Daur Mountain Range and the Borshchovochnyy Mountain Range. In this depression the Ingoda unites with the Onon, which comes from the south. These two rivers then form the Shilka, the left source river of the Amur.

Approximately 60 kilometers below the point where the rivers flow together, and at the Nercha which flows into the Shilka from the north, is the city of Nerchinsk (28,000 inhabitants), and 85 kilometers further down lies Sretensk. Here the well-known Nerchinsk steppe island stretches on the left side of the Shilka, principally between the Shilka's two tributaries, the Nercha and Kuenga. /223/ /Sketch Map of Chita Oblast:/ The bulk of this steppe island consists of an almost ideal plain. The rest of the steppe island is gently

rolling with gentle rises toward the edges. In the ground lies a granite foundation, over which is liparite and tuff, covered over by a thick layer of lacustrine deoposits, which point to the formation of the steppe basin from a former lake (Gladtsin, 69). Striking is the present day

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science, (Moscow, 1938), p. 174.

dryness, which forms a sharp contrast to the forest landscapes surrounding the steppe island. The low position (620 to 680 meters above sea level) as a depression between the contiguous mountain chains, may well be the reason for the special climatic conditions prevailing here. The fertile steppe soil, in many cases designated as black earth, has lead to thick settlement, and, accordingly, the grass steppe only rarely now shows itself in its original dress. The levelness of the steppe is interrupted only by flat, mostly dry valleys with gentle slopes. /224/ In the deeper places there appear damp meadows, often swamps, and also not uncommonly even salt-pans. The slopes of the valleys sloping to the north are overgrown with birches, poplars, meadows, and bushes, especially if the valleys have the character of a ravine. The transition to the forest landscapes occurs quickly. However, the souther slopes remain free of forests the longest and often appear in contiguous taiga as small forest steppe islands. Toward the Shilka the steppe plain breaks off with a steep, heavily valleyed, high step, which from the river often gives the impression of a mountain land. Next to the dairy and meat economy, the cultivation of grain stands in first place in the agriculture of the steppe island. The economic center is Nerchinsk with its mill plants, brandy and alcohol distilleries. In terms of transportation Sretensk has a better location, for there the regular Amur shipping begins. West of Sretensk in Kokuy there is a shipyard.

The Transbaykal Railroad runs from Nerchinsk on further on the left shore of the Shilka as far as Kuenga, and from here a branch railroad leads to Sretensk. The main railroad line, which from here on bears the name of Amur Railroad,[1] leaves the Shilka Valley at Kuenga and circumscribes the Shilkinsk Mountain Range in a great arc. Here in the north, lying in a side valley of the Kuenga and connected by a railroad line, are the coal mines of Bukachacha, which in their production stand in first place in Transbaykal, and farther to the east around the Mogocha Station lie extensive gold fields.

The wealth of natural resources is, however, of far greater 135
significance for the economic development of the future.* In this 489
connection the non-ferrous metals in addition to iron ore should be mentioned primarily. The still insufficient connection with the transportation network, however, offers the greatest handicap to the exploitation of the natural resources. Apart from the railroad line which runs from Karymskoye to Otpor to Manchuria, there are only land routes available. Even the very important zinc-lead mines in Khapcheranga, in Mangut, and on the Sokhondo can be reached from the Ulstuy station, west of Karymskoye, only by a built-up land route which is around 320 kilometers long. And by the same route, too, the produce of the mines must be brought to the railroad line on trucks. Because of the smaller differences in height the land route along the Onon valley to the Olovyannaya station has recently been used in perference to the above-mentioned route, which crosses more mountain ridges. Also the regions in the angle between the Manchurian side branch of the railroad and the Argun can only be reached by built-up land routes and truck transportation. Borzya on the railroad line appears to be 361
developing here into the traffic center. Toward the east a narrow-gauge railroad leads to the /229/ non-ferrous metal mines of the Argun district, and toward the southwest a similar line leads to Choybalsan in the Mongolian People's Republic. The city itself, located in the middle of the Argun steppe which is rich in livestock, has a large meat plant. In addition to Borzya there should also be mentioned on the Manchurian branch of the railroad the city of Olovyannaya, which has already been mentioned several times and which is known for its tin works. The bulk of the other localities have already been listed in the discussion of the natural resources.

*[i.e. of the Aginsk steppe -- Analyst]

The Vitim Plateau and the Northern Forested Mountain Provinces

To the north of the Yablonovyy Ridge, spreading east of the 133
Ikatskiy Mountain Range, is the Vitim Plateau, which is adjoined on the north by a series of mountain ridges. The entire region represents a forest mountain range landscape, which climatically is very raw and which makes it very difficult for man to make his way here. Agriculture disappears almost entirely here or is limited to small islands which are scattered sporadically. Only Tungus hunters and reindeer breeders in small numbers traverse the thick taiga and pass a laborious life . However, these wastelands conceal extraordinarily rich gold 316 ●
streams, which are diffused especially in the central part of the Vitim Plateau and which have brought into being active gold

●316 mining. Accordingly, these parts have been best explored and are best known.

/299/ /Sketch Map of the Vitim Plateau and the Northern Mountain Forest Provinces/1

133 /230/ Here in the northeastern continuation of Transbaykal, the characteristic morphological traits are also clearly marked. There are old root plains, which are dissolved into horsts and grabens by breaks, with contiguous mountain ridges and wide valley plains appearing in addition to wide, gently rolling, high plains which have only mountain cores projecting above them. The old disturbance lines running toward the northeast in the Lake Baykal direction also traverse this area and determine the essential border lines of the morphological units. Accompanying the metamorphic and mass rocks of the Archeozoic era there are already here more recent sediments, and above all very frequently there are large basalt coverings, which are of decisive importance for the surface structure of various regions. The Ice Age has been influential in the morphological shaping in places, and has heaped up large moraines in the valleys. Generally the phenomena of frost and solifluction appear far more often than in the rest of Transbaykal.

The Vitim Plateau is formed from the growing together of the Transbaykal mountain ridges stretching there from the southwest. The bulk of the plateau is bordered by the Vitim itself. This river flows first toward the south, then turns sharply toward the northeast and then toward the north-northwest. The interior of the high plain is drained by tributaries of the Vitim, principally by the Tsipa and its tributary, the Amalat.

The plateau represents a monotonous high plain, traversed by flat-sloping embankments; between these embankments there are swampy plains covered by thick larch taiga. These plains often extend over ten kilometers and more without the slightest change. The little tiny rivers flow in flat, open valleys; larger rivers, on the other hand, have sunk 40 to 50 meters into the high plain with one side, washed away underneath, often appearing to be steep and rocky, while the other side extends as a damp, swampy plain, filled with small lakes. At present, side erosion predominates in all the valleys. The watersheds rise 400 to 600 meters above the bottoms of the valleys, but the watersheds lie at a very great distance from them. The absolute height of the main watershed reaches 1,700 to 1,870 meters with the passes having a height of 1,385 to 1,490 meters (

1 [Cf. cat. 116, p. 261 -- Analyst]

becomes part of and continues the direction of its tributary toward the 133
northeast until it empties into the Vitim. In the Tsipa-Bambuyka valley and in the Amalat-Tsipa valley there are tectonic lines running in the Lake Baykal direction. These lines here are crossed by disturbance lines running southeast-northwest. These lines seem to be indicated by the middle course of the Tsipa and the northwest direction of the Vitim.

The valley of the upper Tsipa is indicated as the tectonic continuation of the Barguzin valley. It attains an extraordinary width (up to 25 kilometers and more) and represents the floor of a former important fresh water lake, whose surface, clearly indicated by terraces, lay at 1,129 meters above sea level. The present-day valley basin is taken up principally by peat moors and meadows with clusters of grass, in which a large number of lakes of all sizes have remained as remnants of the former water basin. The largest lakes are Baunt, Busani, and Okunevskiy lakes. Baunt Lake, through which the Tsipa flows, lies at a height of 992 meters. The southern part of this depression, which is rich in lakes, is used by a tributary of the Tsipa, the Tsipikan, whose source neighbors on that of the Vitim. In this area, on the upper Tsipikan and Vitim, lie the richest gold fields in the Vitim Plateau. Toward the east the former lake basin thins out to a narrow valley; and, accordingly, boulder barriers occur easily to stop the Tsipa and force it toward the south. The tectonically determined valley, however, as has already been stated, continues in the same direction toward the northeast and serves as a river bed for part of the Bambuyka and for all of the Tuldunin.

The most important gold regions of the Vitim Plateau are in 316 ●
the upper courses of the Tsipikan, Vitim, and Lesser Amalat; in short, they are deposited somewhat toward the west, almost in the central part of the plateau. The gold streams in large part lie in the permafrost area, and, accordingly, the dressing of the ore and the extraction of the gold takes place with difficulty, even though dredges and mechanical gold washing installations are employed. The supplying of the area causes special difficulty, since supplies must be brought through vast, uninhabited taiga wilderness. To be sure, Baunt Lake supplies fish, meat comes in part from the reindeer herds of the Tungus, potatoes and vegetables are cultivated to a slight extent on the spot, but the outside world must be / 233/ relied on for the rest of the supplies. For this the Barguzin Valley plays the primary role, because the shortest routes, although difficult ones, lead from it to the gold districts.

316 [491] 509] Land road connections also exist toward the south via Romanovskoye on the Vitim to Chita. A rapid and continuous means of transportation has recently been ensured by an airline, which is flown regularly and which connects Chita with Tsipikan, the center of the northern gold district.

133 To the north of the Tsipa-Bambuyka valley rises the Muya mountain country, which is divided into two long ridges by the river of the same name which flows toward the northeast to the Vitim. These two long ridges are the Southern Muya Mountain Range and the Northern Muya Mountain Range. The northern border of the latter is formed by the extended valley of the Upper Angara, which flows toward the west-southwest to Lake Baykal.

The Southern Muya Mountain Range, a mighty, massive horst, forms the watershed between the Tsipa and the Muya. It has a raw, wild appearance with a ridge of numerous gol'tsy, with an entire series of heights, crowned with snow, rising over 2,000 meters. The picture of the entire mountain range, however, is not unified, and the wealth of varying forms is determined by the change in the rock. The former root surface is, to be sure, heavily destroyed, but it is still always recognizable. In the higher places traces of an old glaciation are to be found everywhere in the form of circus /circular?/ valleys/Zirkustäler/, trough valleys, round basin lakes /Karseen/ and basin moors /Karmooren/, and, in the valleys, deposits of boulders and rubble. Because the Muya Valley lies at the slight altitude of 450 to 600 meters, the slope toward the north is much sharper than the slope toward the south to the Tsipa Valley, which generally has a height of more than 900 meters. The passes are difficult, small in number, and 1,450 to 1,700 high. From the swamps at the foot of the mountain range rise slopes covered with thick taiga. Here the ascent into the narrow valleys overgrown with shrubs is especially difficult. Only at heights where the vegetation discontinues, is there an opportunity for free movement.

The valley of the Muya is determined tectonically as a depression. It attains a width of up to 30 kilometers. A mixture of deposits of old and recent date makes the valley plain appear rich in variety. Hills, long embankments, sand bars with closed off lakes, in between swamps and moors displace one another. Terrace formations on the border of the valley and widely diffused lake sediments permit the basin of a former lake to be recognized in the valley.

The Northern Muya Mountain Range, likewise a horst, is

133 Gold streams are mined on the Ketemakhta, a left tributary of the [316] upper Kalar. Connection with the outside world is provided by [487] mountain paths, which lead toward the south to the Mogocha Station on the Amur Railroad.

The Olekminsk Stanovik comprises the entire area around the upper course of the Olekma and at the same time forms the watershed for the Amur. The entire region is described as a forest-covered plateau, whose general height lies between 950 and 1,000 meters. The river valleys are mostly deeply etched, and lie 80 to 200 meters below the surface of the plateau. The ridge between the Olekma and its right tributary the Tungir bears the name of Dzhaliro-Tungirskiy Mountain Range; otherwise individual designations are not known. The watershed for the Amur forms a flat ridge, which generally is only 800 to 900 meters high. Toward the south, toward the Amur, this ridge gives way very quickly to hilly country, which is interrupted by the broad valley areas of the numerous waters flowing into the Amur. The most important of these is the Amazar, whose valley [237] is also used for a stretch by the Amur Railroad. In contrast to the thick larch forests, which cover the bulk of the Stanovik, the vegetation on the slopes inclined toward the Amur includes numerous deciduous trees and thus shows already a more friendly picture. Gold is the 316 most valuable product of the regions. The river valleys between the upper Tungir and the Amazar are especially rich in gold. These valleys are very well opened up because of their nearness to the railroad. The center of gold mining is the city of Mogocha, which has approximately 30,000 inhabitants. It lies on the railroad on the left side of the Amazar. The alluvial sands of the little rivers flowing into the Amur also have gold and, therefore, from early times have [361] enticed many men who then remained in the land. Accordingly, the entire strip of land between the railroad and the Amur is relatively thickly settled. Worthy of mention here is the valley of the Urusha, which is crossed /237/ by the railroad at the station of the same name. In the vicinity of Urusha brown coal deposits have been determined, and, west of Urusha in the vicinity of the Yerofei Pavlovich station (which has more than 20,000 inhabitants), there are also usable tin deposits.

The Oldoy-Zeya Mountain Country

133 East of the area around the upper course of the Olekma, the

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Stanovoy in two places, reports, it is characteristic of the entire structure of the Stanovoy that the plateau in the middle slopes both toward the north and also toward the south in step-shaped breaks, which stretch in a latitudinal direction. Also in terms of landscape there is a difference between the two outer zones. In the north the valleys are mostly filled with forest, and only the deepest places are taken up by moss hills and moss swamps, while the heights appear bare of forest and are covered with rock ruins and boulders or consist of smooth, steeply towering, contiguous bare rock. In the south, on the other hand, /239/ all the heights have thick forests, and only the valley areas are without forest, as a consequence of the greater swampiness. In contrast to the rest of the Stanovoy, the area around the source of the Zeya is also mountainous in the south. [137]

South of the Stanovoy stretches the upper Zeya's broad graben depression which is filled with forests and swamps. Opposite it and coming from the west is the valley of the Gilyuy which is significantly narrower. Both are among the richest gold fields in the Far Eastern regions and are, therefore, better known. The valley floors and even the gentle plateau slopes are mostly covered with a thick layer of moss drenched with dampness, while thick larch taiga grows on the better-drained slopes and elevated places. Deciduous trees occur here only very rarely. As a consequence of the predominant permanently frozen earth, there are often moss hills containing ice cores. These hills are often several meters high, and, if they appear in large numbers, they give rise to a landscape similar to a hill tundra. The crossing of such moss swamps is made difficult by the fact that the frozen earth has gaps, probably because of warm springs, and, accordingly in such places one can sink to unfathomable depths. Where gold mining is pursued, the taiga as a rule is destroyed beforehand by forest fires set off intentionally. The taiga thus gives way to a horrible, plundered landscape, in which there are numerous, deserted huts, which, overgrown with bushes, are falling into ruin and increase still more the despair of the picture. The region does not have larger localities. There are some villages, such as Potekhino and Bryatan in the center of the depression, in which there are larger supply warehouses from which the widely scattered settlements of gold washers are supplied. The extraction of gold, now run by the state, brings rich yields and has made the depression into one of the most important gold areas in the Far East. The gold streams lie along the Zeya and the Gilyuy and their tributaries. The very great swampiness and the existence of

[316] [37] [361] [316]

on the Manchurian side, lies the city of Heino (Sakhalyan), from whence there is a spur to the railroad network of Manchuria. The area around the lower course of the Bureya has the same character in terms of landscape as do the plains on the Zeya. The nearness of the highland permits the basic rock to come out more often here. The population is likewise dense and in the valley of the Bureya penetrates farther toward the north into the highland. The center of the region is the little city of Bureya, which lies at the point where the railroad crosses the Bureya River. A railroad line, which is 43 kilometers long, branches off from here to Raychikhinsk, the center of the largest brown coal deposit in the Amur country. Zavitaya, from which a new railroad line has been built to Poyarkovo on the Amur, /249/ has acquired a growing importance during the most recent period.

The brown coal fields lie between the railroad and the Amur and stretch from the Bureya in the east to the Zavitaya in the west, covering an area of 600 square kilometers. Raychikhinsk and Kivdinskiy are the centers of the coal mining. The transporting of the coal is done for the most part by railroad to the Bureya station, where there are opportunities to transfer the goods to river shipping.

The northern part of the Zeya-Bureya plain is drained primarily by the Selemdzha. The population here decreases rapidly toward the north, and settlement is limited to the valley areas of the rivers. On the Zeya, settlement reaches to the town of the same name at the foot of the Tukuringra Mountain Range; and on the Selemdzha, settlement ends approximately at Norsk. Both rivers are regularly traveled by steamships as far as the localities named. With the new construction of the BAM, which goes from the middle Zeya and runs through the area toward the east and crosses over the Selemdzha at the locality of Norsk mentioned above, new prospects have opened up for the further development of these regions, which are favorable for settlement but which in the past were too remote.

The Bureya Mountain Country

The Bureya Highland has a central position in the Amur country. It forces the Amur to make its large southern bend; and, in the south where it joins the Little Khingan, it makes a path to the east free for the Amur only in a narrow break-through valley. In the same place the Bureya Highland shoves itself like a wedge into the great depressions running along the Amur and separates the Zeya-Bureya plain in the

133 west from the depressions on the lower Amur and Amgun.

For the most part the highland comprises, as its inner zone, the drainage area of the Bureya, which also is bordered by the two main chains of the highland: i.e., in the west by the Turana Ridge, which is the watershed toward the Zeya, and in the east by the Bureya Mountain Range, which represents the watershed toward the lower Amur.

The Bureya Mountain Range forms the backbone of the highland. It begins on the Amur as the continuation of the Little Khingan which stretches from Manchuria over the river toward the northeast. The Bureya Range is, therefore, also known under the name of Little Khingan. But here the Russian geographers, who designated the mountain chain generally as the Bureya Mountain Range, are to be followed. These mountains run principally toward the northeast, though the direction of individual sections changes from place to place. This continues until the mountain range runs into the already mentioned Dzhagdy Mountain Range, which comes from the west. Here in the north individual sections are known under special names: thus, the Duse-Alin', which in an arc surrounds the left source river of the Bureya (Levaya Bureya), and, adjoining the Duse-Alin' on the north, the Yam-Alin', which flows into the Dzhagdy Mountain Range. The Tam-Alin' and the Dzhagdy border on the north and the east the gold-rich area /250/ around the source and the upper course of the Selemdzha; while from the southern part of the Yam-Alin' a mighty massif, forming a watershed, shoves in toward the west between the Selemdzha and the upper Bureya. Here in the northern part of the Bureya Highland, where immense high plateaus unite in a narrow area, there also lie the highest elevations of the Bureya Mountain Range and also the highest elevations of the entire highland. The Yam-Alin' has several peaks which project 2,000 meters. Its highest point reaches 2,215 meters. Also the watershed massif between the sources of the Selemdzha and the Bureya has several gol'tsy, which are only a little inferior to the Yam-Alin' peaks and which project between 2,115 meters and 2,155 meters.

316 The area around the source of the Selemdzha is rich in gold and has gold-washing installations, which are in part mechanically run. But the remoteness of the region causes the very great difficulties 505 to the works which are directed by the state. The primary supply route is the Selemdzha, which is regularly traveled by steamers as far as Norsk, often designated as Norskiy-Sklad. And under favorable conditions the Selemdzha is even traveled as far as Selendzhinsk.

137 in constantly from the sea in the summer, have given these forests a peculiar appearance. The branches are covered with long lichen, which hang down like beards, and moss grows on the stems as far as the boughs. A thick layer of moss also envelops the earth, and with every step water springs from the damp cushion. In the deeper places and also in the middle part of the highland, larches then appear as forest-formers, and the forests gradually become purely larch forests, and also fill the valley areas as far as the middle courses of the great rivers and press far to the south. The reason for this can be seen above all in the fact that the cold air masses flow down into the valleys and thus prevent the expansion of other types of trees. Only on the lower courses of the rivers flowing toward the south do deciduous trees set in. The larch forests which cover the bulk of the Bureya Highland are economically the most valuable.

•316 The valley of the Niman was once among the most famous of the gold fields in the Far East. But the deposits are already exhausted. In their place the gold fields in the area around the upper course of the Bureya have now appeared, but these cannot compete in yield with those of the Selemdzha. The valley of the Bureya serves as the con-
505 necting path to the gold dressing installations. When the water level is good, the Bureya can be used by steamers for 345 kilometers as far as the locality of Chekunda, and occasionally even as far as Umal'ta. From Chekunda down the greater drops already work so strongly against water vessels that from here on the boats as a rule have to be drawn by
487 horses. The last part of the way then is traveled by car or with riding horses and pack horses. An extension of this route toward the east leads over a pass, which is more than 1,000 meters high, to the gold fields on the upper course of the Kerbi, a tributary of the Amgun, which already belongs to the lower Amur. This much-traveled old Bureya gold route has today for the most part lost the importance it once had, since rich deposits of molybdenum and especially of coal have been found in the valley of the upper Bureya and a railroad has been built there.

316 There is molybdenum in the valley of the Umal'ta, a left tributary of the upper Bureya. Here a great molybdenum works has been erected in Ust'-Umal'ta. The hard coal deposits fall into two parts, into the deposit on the upper Bureya and the Tyrma deposit, which are separated from one another only by tectonic occurrences with
496 succeeding erosion. For the /252/ opening up of these deposits a railroad line is being built from Izvestkovyy, which lies west of Birakan on the Amur Railroad. This new railroad line leads over the Bureya

361 uninhabited except for in the southern part. Heavier settlement in terms of area covered can be found only in the southern part of the highland, where a contiguous belt of settlements meets us both along the Amur River. While the belt of settlements along the Amur River is certainly purely agricultural, industrial activity is to be encountered along the railroad in the area of the Bureya Mountain Range. In Bira
• 316 hard coal is mined /253/, iron ore lies west of Bira in Kimkan, and farther on in the vicinity of the railroad there are known to be supplies of magnesite, manganese, and fluorspar. Gold is also there and is extracted from the gold streams of the Sutar valley. This sourthern part of the Bureya Highland belongs to the Jewish Autonomous Oblast. It will be discussed in context in the following chapter.

/Sketch Map of the Jewish Autonomous Oblast/

The Amur Plain

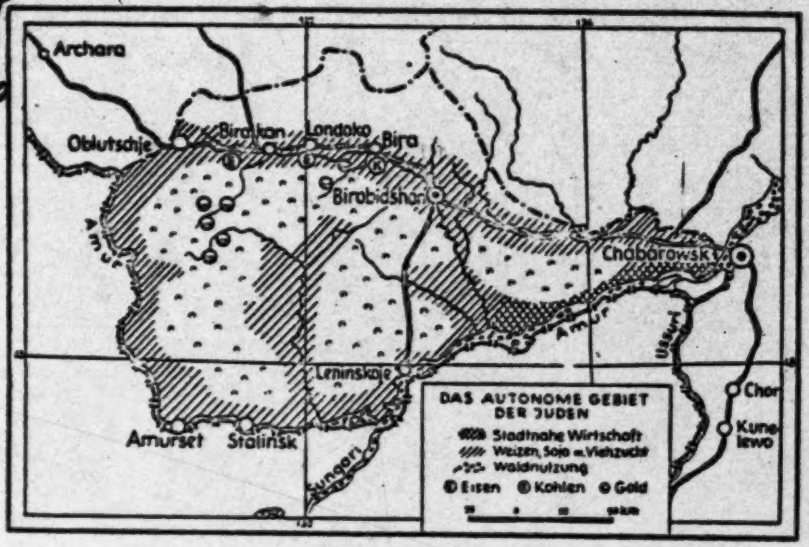
133 This region extends from the eastern slopes of the Bureya Mountain Range to the shore of the lower Amur, and it forms a vast lowland covered with meadow steppe. This lowland is scarely inferior to the Zeya-Bureya plain in the luxuriant growth of grass. The mean height of the plain is 45 meters. On the eastern side of the Bureya Mountain Range there run parallel to this range some mountain ridges, which go beyond the 1,000 meter mark only in the rarest of cases, such as in the Badzhal'skiy Mountain Range.

The Amur plain is regarded as a continuation of the Ussuri-Khanka depression and represents a graben zone, which is set between the Bureya Mountain Range on the west and the Sikhote-Alin' on the east.

The plain itself is divided into the flood area, which can be from a few kilometers up to 20 kilometers wide, and the real plain, which begins with a step. Only the edge of the plain is cut up by the rivers; otherwise the plain is for the most part completely flat and toward the mountains goes gradually over into a hilly landscape. The country on the right bank of the Amur below the mouth of the Ussuri is more varied in form /254/ because of the spurs of the Sikhote-Alin'. This area is generally higher, and its landscape is gently rolling to hilly.

Even though the external picture of this area recalls that of the Zeya-Bureya plain, the Amur plain, nevertheless, differs because of its greater swampiness, which goes back in the first place to the damper

Sketch Map of the Jewish Autonomous Oblast:



Economy in the Vicinity of a City
Wheat, soy beans, with livestock
Exploitation of the forests
Iron
Coal
Gold

other hand, an elevation still appears to hold sway at present. Many rivers emptying into the sea show delta formations. 133

As a consequence of the southern current running along the coast, numerous narrow tongues of land separating small bays from the sea have formed. All these tongues of land point toward the south. The deltas mostly lie left of the river courses, which, therefore, show a wandering to the right and which also dig under the shore on the right side. The sea current is weaker and irregular on the southern coast, which is heavily broken up; thus tongues of land here can run in all directions.

The most important bay on the east coast is Ol'ga Bay. It was discovered in 1787 by La Perouse and forms one of the best natural harbors on the coast. Lying off the bay are the small, rocky Chikhachev Islands. The bay itself has a diameter of 3 kilometers and is on the mean 25 meters deep. Once it was at least three times as large and reached much more deeply into the land toward the west. Today the valley areas of the rivers emptying into the bay become swampy. When there is a strong east wind, a backward flow can even be determined. The old marine abrasion terraces are very well preserved on the mountains at a height of 25, 30, and 120 meters. The low mountains surrounding the bay consist of granite, quartz porphyry, and sedimentary rock and contain above all iron /264/ in addition to lead [135] ore containing copper and silver. This iron is magnetite with an iron content of 50 percent; the iron is being mined here. The harbor locality of Ol'ga has several thousand inhabitants. In the hinterland of the bay [141] Russian peasant settlers have made their appearance.

The Tetyuke Bay has a greater economic importance. Here, 35 kilometers from the coast, is the most important zinc-lead-silver ore in the Far East. A narrow-gauge railroad connects the mining installations and the preparatory installations with the harbor, which has gotten modern loading equipment very recently. The harbor locality has several thousand inhabitants. Here, too, there are agricultural settlements in the hinterland. 316 504

Between the two above-mentioned bays is a third bay, the Vladimir Bay. It is surrounded on all sides by granite mountains which are up to 225 meters high. The bay has a depth of up to 12 meters. Fresh water lakes and swamps enable us to recognize the former larger expanse of the bay. Two projecting rocky peninsulas enclose the bay. Vladimir is known for its installations for the extraction of iodine from seaweed. 133

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

means of transportation. They have built 653.2 kilometers of railroad lines, and in addition they have improved the land roads, too, so that they can be traveled regularly by buses. However, this opening up to traffic has generally been limited to the regions near the coast and to the most southerly part of the island, while the greatest part of the interior, as in northern Sakhalin, remained left to itself. Now the most important coal deposits also lie not far from the coast, and the Japanese succeeded in bringing production in a large number of mines up to approximately two million tons by the beginning of the last war. Of this 500,000 tons could be exported to Japan. The remainder was used in Sakhalin, above all in the wood industry, which had been developed on a large scale by the Japanese. Since 1929 the Japanese had gone about, in a planned fashion, the building up of a cellulose and paper industry in southern Sakhalin, in order to be able to supply their home economy with these products. At the end, just before the outbreak of war, there were eleven large cellulose and paper factories in the country, and their production constituted almost 90 percent of the industrial production of southern Sakhalin. The share of these factories in the total production of Karafuto was around 60 percent. In addition, southern Sakhalin delivered large quantities of wood as cut wood and raw lumber. Southern Sakhalin was also very important to Japan as a base for fishing, which produced rich surpluses. However, in one thing the Japanese did not succeed: the securing of food for the population from the island itself. In this particular Sakhalin was an importing region, although the Japanese made every effort to expand agriculture and the breeding of livestock.

/283/ After the evacuation of the Japanese and the taking over of southern Sakhalin by the Soviet Union, the Soviet Union has striven to fill the land with people and to get the economy's production going again. On this there are numerous reports, which tell especially of the founding of kolkhoz and sovkhoz. In addition there are constant reports on the establishment of fishing stations and of fish-processing central stations, but there are only a very few reports on the taking over of coal mines and of getting them into production. There is little information on the installations of the wood industry, although it is to be assumed that the Soviet Union has above all laid value on getting the industrial plants into production, and apparently, too, everything has been done so that these plants could take up their production again.

4: U.S. Army G-4 (no date) 1956 RRI Siberia RRI

HEADQUARTERS
UNITED STATES ARMY FORCES, FAR EAST
AND EIGHTH UNITED STATES ARMY (REAR)
Office of the Psychological Warfare Officer
APO 343

ANALYSIS #070156

Klynarchik/hy/266-2755
18 January 1956

000 USSR: MAGADAN, CAPITAL OF THE KOLYMA GOLD EMPIRE

Part I: The Rise of Magadan (1927-1946)

1) Introduction
2) Physical Features of Kolyma
3) Administration
4) Population
5) Development of the Kolyma Area (1927-1931)
6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932
   a. The Leadership of Berzin (1932-1937)
   b. Violence under Garanin (1937-1938)
   c. Blundering of Vyshnyevetsky (1938-1941)
   d. The Regime of Nishikov (1941-present?)
7) The Kolyma Buildup (1932-1946)
8) The City of Magadan
9) Summation

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Part I. The Rise of Magadan (1927-1946)

316 466 1) Introduction: Until the early 1930's the Kolyma region in the northeastern section of Siberia was practically deserted; the only population consisted of several native tribes who were engaged primarily in reindeer breeding. Approximately 173 independent miners were also in the area for the purpose of extracting gold from the rich fields around the Kolyma River; however, in 1931 the Soviet Government, at that time completely lacking gold reserves, began one of its largest enterprises until that time—the exploitation of Kolyma gold on an increasing scale. Labor was primarily prisoners, both criminal and "counter-revolutionary," who were sent to the Magadan area by the hundreds of thousands yearly in an attempt to build the area into a self-sufficient region with only one mission—ship every available ounce of gold to Moscow.

115 121 The information contained in this report is primarily derived from published reports made by prisoners who have returned from the Kolyma area after having served their prison terms as forced laborers. Although admittedly this report is historical in nature rather than a concise evaluation of the present situation, it was considered appropriate, due to a lack of general information and knowledge of the area, to present

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466 According to other sources the number of ships in Dalstroy service is higher than the four ships cited above; it has been positively stated that in 1940-1941 five more steamers (Minsk, Kiev, Igarka, Komsomol, and Uritsky) and the icebreaker, "Sakhalin," were in operation with a total shipping capacity of 35,000 passengers. (Note: Local Soviet Far Eastern radio stations which service areas with shipping administrations have been noted to make reference to the Uritsky, and in the course of the past six months a vessel named "Komsomolsk" may be the ship "Komsomol," as included in the ships carrying slave labor. This possible identification is noted because monitoring of local Soviet Far Eastern radio stations has always been plagued with the difficulty of "making out" names of persons, ships, and the like."

It goes without saying that prisoners were also shipped into Kolyma by the northern route--the run from Archangel east through the Arctic Ocean. This route was attempted because during the 1930's Soviet ships carrying slave laborers on the run from Vladivostok to Magadan passed through the Sea of Japan and the Tatar Strait, both of which were constantly filled with Japanese vessels: for obvious reasons, the Russians were not too eager to have the Fascist Japanese circles learn of this Soviet cargo. However, due to the extreme difficulties of navigation along the northern route, successes were few; instances of ships carrying laborers being caught in the ice with no survivors were not few. In summation, even if the northern route is discounted, the importation of 400,000 to 500,000 laborers annually is not impossible.

161 Recent estimates of the total population of the area have ranged between 300,000 and 1,000,000; however, inspite of the fantastic death rate among prisoners, millions have been imported as laborers, and there is reason to believe that there is approximately between one and one and a half million people in the area.

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655 5) Development of the Kolyma Area (1927-1931): Commercial gold mining really began in the Kolyma fields in 1927, and at first the entire production was in the hands of free agents who ventured into the area. "In 1929, according to official Soviet statements, gold was being panned in three fields,.... There were altogether 65 prospectors working in the three fields, and a total of 108 men living in the adjoining settlements."[2] According to Soviet law at that time, all gold was to be delivered to the government trust, Soyus-Zoloto (Union Gold); however, no branch of this trust was closer to the Kolyma gold fields than that office in Okhotsk, which was still more than 1,000 miles from the fields. Furthermore, private gold buyers were willing to pay a higher price for gold than was the government which was attempting to keep gold prices on a level with the rising prices of commodities. This situation had the result that a large "black market" in gold arose, and much of the gold, according to Soviet officials, went into the hands of the Japanese, whose fishing boats were almost omnipresent in the Sea of Okhotsk. These fishing boats brought merchandise to sell in the gold fields, and this can be substantiated by the fact that much of the goods in the Magadan area at that time bore Japanese labels.

The Soviet Government found itself faced with two possible solutions to the problem: either it could permit free-lance gold prospecting as had been the case in California and Alaska, or it could invest a large amount of money into the area in an attempt to build up its own resources for extracting the gold. The first measure was hardly feasible, especially by a government whose basic principle was opposition to free enterprise, and the second possibility was practically impossible because the Soviet Union at that time had no money to invest. It was in this manner that the Soviet Government decided to invest its only and largest asset at that time--people. However, since few volunteers were

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2 Ibid., p. 113. 1 [the Kolyma region—Analyst]

willing to venture into such an inhospitable area, prisoner labor was considered to be the only solution whereby sufficient numbers of personnel would be available in Kolyma to exploit the gold resources there. It was at this time that the collectivization program was in progress in the Soviet Union, and labor was to be found in abundance in the form of those sturdy peasants, especially in the Ukraine and White Russia, who opposed the confiscation of their land into collectivized enterprises. Furthermore, previous attempts at the use of prisoner labor had been satisfactory in the construction of the Baltic-White Sea Canal. Consequently, it was decided to move large numbers of "socially hostile elements," as they were called, into the Magadan area to exploit the gold fields. 316 655

6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932: In the winter of 1931-1932 a special administrative unit was established under the name of Dalstroy, and this organization was responsible for the development of the extreme northeastern part of Siberia—the primary task was the exploitation of the gold-rich Kolyma region. It should be noted that Dalstroy was under the direct control of the GPU (later reorganized into the NKVD and again into the MVD), which immediately undertook to supply the organization with huge numbers of laborers. It might be mentioned that Dalstroy had "first pick" of all the prisoners throughout the Soviet Union; simultaneously Dalstroy procured adequate numbers of free-labor specialists, namely, engineers of all types who were to organize the actual exploitation of gold. 635 466

a. The Leadership of Berzin (1932-1937): Berzin was the head of Dalstroy during the years 1932-1937, and since he was the very first of the NKVD chiefs of the organization, his administration was filled with a terrible loss of life; this was not permitted to interfere with his mission, however.

After a preliminary examination of the situation, it was decided to establish a port on the Sea of Okhotsk and penetrate gradually inland rather than to use an overland route. The harbor of Nagayev, located close to the Ola River estuary, was selected as the primary base of operations; this harbor is at present the port which services the chief city of Magadan. (Note: This harbor is approximately 10 miles long and 3 miles wide.) In order to show the complete uninhabitability of the surrounding area near Nagayevo, the port area has been described as "surrounded by ridges of rock which overhang the water. The rocks, sometimes rising a thousand feet or more, protect the harbor, but on their open sides the winds blow unchecked. Down below where the steep cliffs meet the water, there is no land for human shelter. Above, one is blown off one's feet by the force of the wind that is cold, damp, penetrating, and unequalled in ferocity anywhere in the world."[3] Beyond the ridges surrounding the harbor there is a swamp of the type familiar to this region, under which perennial ice exists; beyond the swamps come the taiga.

In the summer of 1932 ships were dispatched from Vladivostok loaded with Dalstroy cargo, including machinery, equipment, foodstuffs, and manpower. The steamers were gifts to the NKVD by the Soviet Government, and each ship made from 12 to 15 voyages from Vladivostok that navigation season. These ships were specially constructed to hold large numbers of prisoners, and machine-guns covered every inch of the cells. No precautions were neglected to prevent the escape of prisoners in the areas where Japanese ships might rescue escapees and learn the nature of the Magadan enterprise.

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3 Ibid., p. 117.

491 invasion, it should be mentioned that the history of the Nagayev harbor development, as cited previously, was again repeated.

316 The actual gold mining operations were controlled by a special gold mining trust within the Dalstroy organization. In 1939-1940 this trust was composed of seven administrative agencies, each in control of its own area. These agencies were

1) The Southern Mining Administration, which had jurisdiction over sixteen gold fields, including the principal fields of Srednikan, Beriskin, and others;

2) The Northern Mining Administration, which was in charge of twelve fields;

3) The Western Mining Administration, which controlled twelve fields;

4) The Southwestern Mining Administration, with eight fields under its jurisdiction;

5) The Northwestern Mining Administration, with six fields under its control;

6) The Chai-Urinsk Mining Administration, with eight fields therein; and

7) The Tepkino-Detrinsk Mining Administration, with four fields. However, it should be noted that, although these seven agencies controlled and directed the activities of 66 gold fields, some of them are spread over such large areas that they should be called groups of adjacent gold fields. Furthermore, it should be borne in mind that the fields east of the Kolyma estuary, which in 1940 were only beginning to be exploited, have not been included in the above tabulation. Information in this respect is nil.

466 The total number of prisoners who work these gold areas[1] is not known; however, according to estimates by prisoners who have managed to return after having served their terms and fled to the west, the normal number of prisoners at each field varies between 5,000 and 10,000 workers. The number reaches its highest peak in May or June of each year: the mining season begins in June at which time new groups of prisoners are arriving at Magadan from Vladivostok. However, by the end of the mining season, the total figure has again decreased due to the heavy death toll; this has been corroborated by Polish prisoners who worked in the Kolyma gold areas after the Soviet-German division of Poland. These same Polish army troops mentioned a camp on the Chukotsk Peninsula, where some 3,000 Polish troops were sent in August 1940. However, all 3,000 died while working in the lead mines, not only due to the usual bad conditions but also due to lead poisoning. Therefore, assuming that the number of prisoner-workers per field averages some 5,000 persons, there is reason to believe that there were at least 330,000 prisoners engaged in gold mining activities in Kolyma. Of course, this figure represents only an estimate for the known gold fields; however, it should be remembered that this total will be swelled by the numbers of women prisoners who are engaged in various other activities like agriculture, lumbering, among others. (Note: No reference has ever been noted where women prisoners have been utilized in the gold fields.) Furthermore, since vast new areas have been in the process of exploitation, including the construction of roads, it goes without saying that additional large number of prisoners are utilized for this purpose; also, there are other mining areas, such as those east of the Kolyma, whereat no doubt large numbers of prisoners are also engaged. Consequently, although no exact figures

1 [i.e., the Kolyma region, Siberia -- Analyst]

133 peculiarity of these lakes depends on the rock in which they are set. If such lakes lie within eruptive stone, they are as a rule alkali, i.e. they contain and deposit soda (Doroninskoye, Ononskoye, Borgoyskoy
137 Lake). In winter when the climate is dry, soda crystallizes out from the frozen surface of these lakes while strong winds raise up these soda crystals from the ice and deposit them in the immediate and distant environs, thus fostering the mineralization both of the ground water and also of the surface water. In order to extract soda, the soda crystals, which look like a white tinge on the ice, are swept together; thereby 20 to 25 tons of highly concentrated soda lye can be gotten from a hectare of ice surface. In order to foster the crystallization out of the soda, the ice is beaten open so that the lake water comes out under its own pressure through the openings and floods over the surface of the ice. If the lakes lie within Jurassic sediments, then sulphate forms as a rule, especially mirabilite. Deposited under the floor of Selenginskoye Lake is a layer, several meters thick, of sulphate of soda, whose supply is in millions of tons. Alginskoye Lake also belongs in this group. The railroad from Ulan-Ude to Naushki is supposed to lead to the opening up of the important salt deposits in the area of the Gusinoye Lake; the brown coal deposited in the same area is supposed to serve as a basis for this. A large sulphate plant is already in production. At the
361 Gusinoye Lake station a city with more than 10,000 inhabitants has grown from an unimportant village. Coal mines from here supply the railroad. In addition sawmills, brick yards, great dairies, and a fish-canning factory have come into being there. In the fish-canning factory the catch from Gusinoye Lake is processed.

133 The steppe regions which appear in southern Transbaykal vary
137 greatly in their economic importance. In the most southerly areas the artemisian steppe extends over a very wide area: it extends not only over the valley areas but also over the mountain slopes and mountains of the mountain ranges, which here are mostly low. In its driest parts the ground is often covered only 40 percent to 50 percent with plant growth, and the height of the grasses scarcely reaches 15 to 20 centimeters. These are poor meadows. Toward the north, through the thickening /218/ of the covering of vegetation and through the increase in the grasses, this type of steppe gradually changes into the artemisian grass steppe, in which the grasses become 35 to 40 centimeters high. These steppes are used as meadows in the spring and in the first half of the summer--as long as the vegetation still hasn't withered away under the summer heat. Both types of steppes have developed on chestnut-colored

133 these hollows, as a rule, the rivers find their origin.

Southeast of the Yablonovyy Ridge and its western continuation, the already-mentioned Malkhanskiy Mountain Range, there extends the rather wide valley of the Chikoy and of the Ingoda, which is for
361 the most part settled by Russians. Here the Russian villages lie along the rivers like pearls on a string, while only a few kilometers away there stretch mountain forests which are still uninhabited. The best connections to these areas of settlement are from the railroad stations of Khilok and Mogzon.

The capital of the region, Chita, lies at the point where the Chita River flows into the Ingoda. After the construction of the railroad line, Chita quickly developed from a small town into a large city, which by 1939 already had 102,555 inhabitants, and at present its population probably already exceeds 150,000. The city is built on both sides of the river of the same name, and, lying 660 meters above sea level, the city rises like an amphitheater on two terraces of the land rising toward the north. It lies in a dry, healthy region. Chita constitutes the economic center of the entire region. It is especially known for its fur and leather processing. In addition, there are concentrated in the city important flour mills, saw mills, and
[BK] rather large repair shops for locomotives and railroad cars. A few kilometers west of the city lies the Chernovskiye Kopi, one of the
•[217] most important coal districts in the area. Natural calcinated soda is extracted from the Doroninskoye Lake, which lies further up in the valley of the Ingoda.

133 From Chita the Ingoda breaks through on the southeast first the Cherskiy Mountain Range and then the Daur Mountain Range, and, then again bending in the direction of Lake Baykal, it finally follows the depression between the Daur Mountain Range and the Borshchovochnyy Mountain Range. In this depression the Ingoda unites with the Onon, which comes from the south. These two rivers then form the Shilka, the left source river of the Amur.

Approximately 60 kilometers below the point where the rivers flow together, and at the Nercha which flows into the Shilka from the north, is the city of Nerchinsk (28,000 inhabitants), and 85 kilometers further down lies Sretensk. Here the well-known Nerchinsk steppe island stretches on the left side of the Shilka, principally between the Shilka's two tributaries, the Nercha and Kuenga. /223/ /Sketch Map of Chita Oblast:/ The bulk of this steppe island consists of an almost ideal plain. The rest of the steppe island is gently

361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 Vladivostok is not only a harbor city, but it also has developed [255] into an industrial city. In first place here is the fish industry, which, however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [396] Vladivostok has great importance as a naval harbor and a shipyard, [394] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 Apart from this fish industry, which is distributed among 322 numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

339 factories newly created in Komsomolsk, Khabarovsk, and Londoko in Birobidzhan shows. The last-named cement plant has very recently been expanded into the largest such plant in the Far Eastern region next to the plant at Spassk. For the supplying of Transbaykal a cement plant has been newly erected in Temlyuy, 98 kilometers west of Ulan-Ude.

288 In light industry, a new cloth factory in Ulan-Ude is worth mentioning. It was moved here in 1941 and since then it has been so greatly expanded that it delivers several million meters of cloth a year. It is the first cloth factory in the Far Eastern regions. In Birobidzhan there is an important plant in the clothing and knitting goods industry; Khabarovsk and Vladivostok have additional large undertakings in the manufacture of ready-made clothing. In the fu-
295 goods and leather industry there are two outstanding central points t- be mentioned, both of which are in Transbaykal: Chita with the largest fur and leather works in the Far Eastern regions; and Chikoyskiy Zavod, which lies east of Kyakhta on the river of the same name, which draws its raw materials from the Mongolian People's Republic. The production of Chita alone is sufficient to supply all of east Siberia with furs and leather. Shoe and other leather goods factories exist in various places. The shoe factories produce approximately 3 million pairs a year. Only one plant--although, to be sure, one of large
• 323 dimensions--is available to supply a large part of the Far Eastern regions with glass, glass goods, crockery, and porcelain. This plant lies in Ulan-Ude and represents the largest glass and glass goods factory in Siberia. In addition to window and mirror glass, it also supplies special glass for special purposes. According to the projected capacity it is supposed to be in a position to deliver 14,000 tons of plate glass and 6,000 tons of mirror glass. Ulan-Ude is responsible for supplying all of east Siberia with glass. Mention has already been made of the glass factory in Magadan. A smaller factory is supposed to still exist in the Vladivostok area.

The food and luxuries industry is represented by numerous
251 small plants in the agricultural regions. Khabarovsk, Svobodnyy, and Blagoveshchensk have large mills. The first two have a processing capacity of 200 tons of grain per day; the Blagoveshchensk mill is supposed to be even bigger. The large bread and other baked goods plants, which are typical of Soviet cities, are also to be encountered here.
255 Khabarovsk has the most important installations of this type. The surplus of meat produced in Transbaykal are processed into preserved products and canned goods in the two meat plants in Ulan-Ude and in Chita.

this city almost 25 percent of the total population of the Buryat-Mongol ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole Far East. Supported by the Buryat's important breeding of livestock, the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a railroad, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak (Chinese: Maimachen). This overland route, expanded into an automobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

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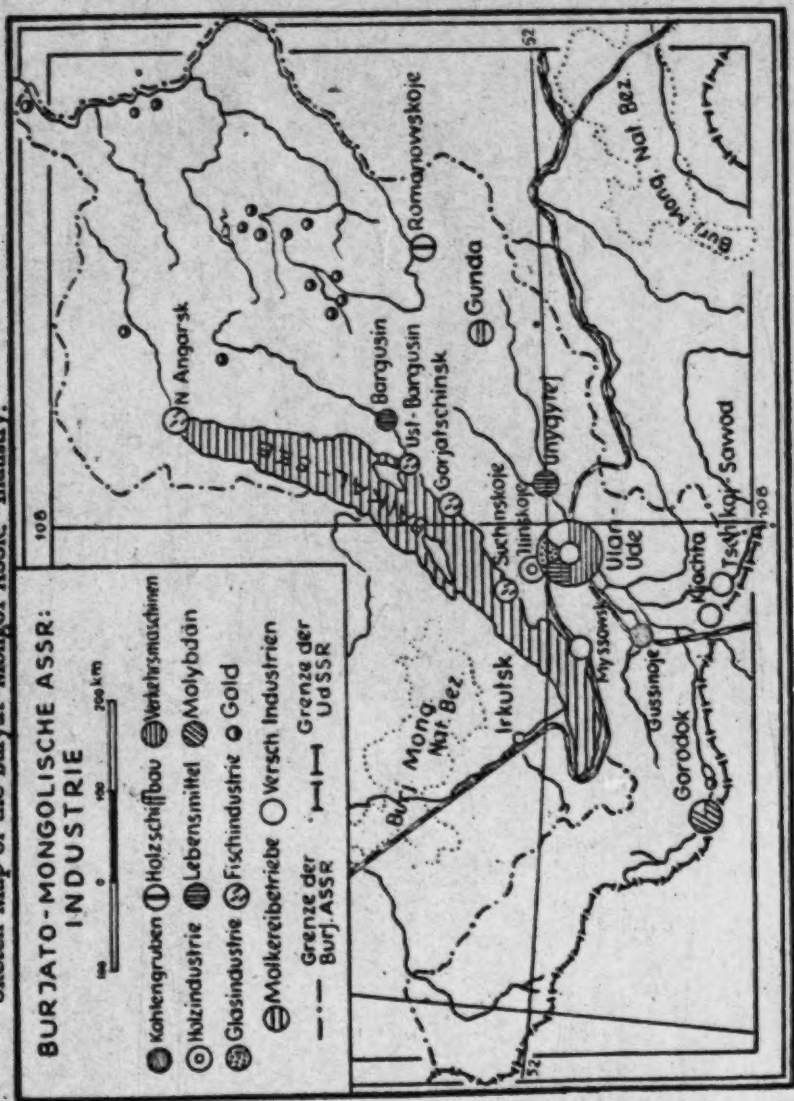
Sketch Map of the Buryat-Mongol ASSR: Industry:



Coal Mines
Construction of wooden ships
Transport machinery
Wood industry
Groceries
Molybdenum
Glass industry
Fish industry
Gold
Dairy plants
Various industries

/215/

Border of the Buryat ASSR
Border of the USSR

133 northwest of the peninsula and separated from the peninsula by a channel. The Ushkani Islands northwest of Svatoy Noz, on the other hand, rise on this ridge and consist of the same stone as Ol'khon Island.

South of the Uda valley depression there next follows in parallel strips, running in the direction of Lake Baykal, the ridges of the Tsagan-Daban and the Khudumskiy Mountain Range, then--beginning in the west on the Khilok--the Saganskiy Mountain Range and the Tsagan-Khurtey, which is bordered on the south by the broad valley of the Khilok. The railroad follows the upper part of the Khilok. Between Khilok and Chikoy there then rises the Malkhanskiy Mountain Range which on the east flows into the Yablonovyy Ridge. All the valley depressions, such as that of the Uda, the Khilok, and the Chikoy, which on the west over a great width melts into the Selenga steppes, put on a different face the farther one goes to the east. The differences in height between the bottom of the valleys and the ridges become smaller, the slopes become flatter, the mountain forms become round, often with almost flat watersheds. The bottoms of the valleys lie at 850 to 950 meters above sea level, the passes have a height of 1,000 to 1,150 meters, and the peaks are 1,200 to 1,400 meters high. Toward the east the climate becomes markedly more contrary and damper, and accordingly the bottoms of the valleys /221/ show signs of increasing swampiness.
361 Correspondingly the population, which is limited almost exclusively to the valleys, also decreases toward the east. Because of the railroad line the valley of the Khilok is the best inhabited. In this connection Petrovsk-Zabaykal'skiy should be mentioned. It lies on the railroad line coming from Ulan-Ude on a section between the Saganskiy Mountain Range and the Tsagan-Khurtey and has the largest single foundry in Transbaykal. The iron ore is delivered by the mines of Balyagansk northwest of Petrovsk, and the coal comes from Tarbagatay and Khalyarta in the valley of the Khilok. All three localities lie not far from Petrovsk and are connected to the main line by railroads. The valley area of the upper Khilok and that of the Chikoy are distinguished from the other regions in Transbaykal by the fact that in these valleys summer rye is well cultivated as grain for bread, while otherwise the cultivation of wheat predominates.

Apart from the above-mentioned coal mining localities, the city-like settlements of Khokhotuy and Bada, known for their processing of lumber, and also Khilok and Mogzon lie on the railroad line east of Petrovsk-Zabaykal'skiy and still in the valley of the Khilok, which flows into the Selenga. Khilok and Mogzon have, in addition to food

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has received its name. [161] By 1939 it already numbered 70,000 inhabitants, and today its population is estimated to be more than 150,000. The [39] city has a large river harbor with an important shipyard in which sea-going ships are also built. [327] The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the construction of three blast furnaces. [382] The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [37] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire area around the lower Amur. 361 496 Already several years ago the city was connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

river of the Amur; Blagoveshchensk with the important Lenin Dockyard at the mouth of the Zeya; and Khabarovsk at the beginning of the lower course of the Amur. 396

In the machine industry the construction of transportation machinery in especially large plant installations is in the foreground. The railroad workshops of Ulan-Ude, Chita, Khabarovsk, and Ruzhina near Vladivostok serve to supply and maintain the railroads; all of these workshops are large installations. The most important of these is the plant for the construction of locomotives and railroad cars in Ulan-Ude. It constitutes an entire section of the city, which, according to a Soviet report, has three times as many inhabitants as all of Ulan-Ude (Verkhne Udinsk) before World War I.. Since at that time the city had approximately 15,000 inhabitants, approximately 45,000 persons must be connected with this plant in some fashion. This also corresponds to the importance of the plant which is competent to supply the railroads not only of the Far East but also of all east Siberia. According to the plant's projected capacity, it is supposed to be in a position to deliver 2,000 passenger cars and up to 12,000 freight cars a year in addition to an undetermined number of locomotives. The other large railroad workshops mentioned above are in a position to repair locomotives and to overhaul them completely and also to a limited extent to build railroad cars. The base for motor vehicle production lies in Khabarovsk, which in the "Kaganovich Plant" has the largest installation of this type in the Far East. Airplane factories exist in Khabarovsk and Vladivostok. In contrast to the industry for transport machinery, the construction of agricultural machinery is distributed among a large number of places. Only Khabarovsk has a large plant. 397 398 399 407

In the building materials industry, with progressive industrialization, the need for modern building materials grew so much that a bottleneck has arisen here. Numerous small brick works and lime kilns must first be created, which are scattered over the vast areas and which in each case satisfy the local needs. A mechanized large brick-works was brought to life in the city itself for the building up of Komsomol'sk. The need for cement which is especially great had to be covered for the most part by other regions in the Soviet Union /179/ up to the beginning of World War II. 339

Up to 1937 there were in the Far East only two cement factories, which were in Spassk north of Vladivostok. Production here in the same year was 164,000 tons. By 1942 this production had already reached 525,000 tons. In this output the production of the cement

339 factories newly created in Komsomolsk, Khabarovsk, and Londoko in Birobidzhan shows. The last-named cement plant has very recently been expanded into the largest such plant in the Far Eastern region next to the plant at Spassk. For the supplying of Transbaykal a cement plant has been newly erected in Temlyuy, 98 kilometers west of Ulan-Ude.

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The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

132 134 499 made unusable. In the spring after the melting away of the ice, the bridges completely collapse. The population claims that earlier formations of ice on ice occured only seldom in these same regions. Thus it must be assumed, and Sumgin also points this out, that the formations of ice on ice are encouraged by the building of roads. Through trials and experience, various new methods of road-building have been found which hinder this damage, but it can not be entirely eliminated. In general terms it can be said that in the areas of permafrost road-building is very difficult, requires a longer time, and is done at much greater cost than in other regions.

Of a similar type are the difficulties encountered in building and maintaining railroad lines. In addition to the pulsation of the earth, landslides and solifluction are regarded as being especially dangerous here. In building the Amur railroad line all these hindrances and difficulties became known in detail. Often, without regard to the cost, the lines had to be laid entirely differently from what had originally been planned. Especial difficulty was encountered in providing water for the railroad in the winter in the areas of permafrost. Water had to be drilled from layers which lay under the permafrost. In many places water had to be procured in kilometer-long, heated conduits. A comparison of costs shows best how great the difficulties were in building the Amur railroad line in the areas of permafrost and to what extent these difficulties increased the costs here versus those in other regions. The building of the great Siberian Railroad (as far as Sretensk in Transbaykal), including all preparatory work, required as a mean an expenditure of 67,737 rubles per verst, while the western part of the Amur line from Kuenga to Kerak, whose total lenght is 597 verst, required for pure building costs an average expenditure of 158,000 rubles per verst. Also the maintenance of the railroads requires larger outlays, since the railroad lines, and especially the bridges, require constant and very careful inspection, in order to be able to take /55/ protective measures in time at the slightest sign of any destruction whatsoever. Thus in the course of the year position changes were determined on 50 out of a total of 80 bridges on the Amur railroad, and these position changes had to be eliminated by protection and rebuilding measures.

132 134 342 The permafrost also plays a noteworthy role in the method of construction. Apart from the direct effects of the cold, the buildings in the sphere of the permafrost are subjected to the danger of gradual decay. The reason for this lies principally in the fact that the ground

under a building freezes little if at all during the winter. V.G. Petrov (154) writes on this subject: "The house stands as though on

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154. Petrov, V.G. Naledi na Amursko-Iakutskoi magistrali /Formations Breaking Through the Ice (Aufeisbildungen) in the Amur-Yakutsk Magistracy/. Academy of Science, Moscow, 1930.

the edge of a frozen crust. If now this crust begins to thaw, its edge spreads the house lengthwise and widthwise, and the damage begins." This leads to general deformation of the house and to the gradually sinking in of the house into the ground. Sumgin points out that this danger is caused above all by so-called "swimming" masses, which form under the house and which can be traced back to the changes in the thermic conditions in the ground. With larger structures of several stories, they can often be caused by the pressure of the structure alone. In individual cases it happens that the water in the earth, which lies between the winter freeze and the permafrost and which is under a certain pressure, finds a way into the open underneath the house. It penetrates into the cellar and even into the living quarters and forces the occupants to leave the house. Not uncommonly the penetration of the water occurs so quickly that the occupants do not succeed in rescuing all their possessions from the rooms. The regions of permafrost require construction methods which counteract these dangers. As a rule an attempt is made to lay the foundation so deeply that it has a firm position in the permafrost; to do this, mostly wood or reinforced concrete palings are inserted into prepared holes deep in the permafrost. In the construction of new cities and plants the question of a sufficient and secure foundation plays an important role, and it also is an important factor in the cost estimate. In building the city of Magadan, where apartment buildings with up to six stories were erected, thick layers of earth had to be removed in order to install the foundations so that the foundations became frozen fast into the ground. The sides of the foundations were protected by insulating layers. Often the foundations were entirely embedded in insulating layers here. In order to eliminate all these difficulties, M.M. Kryllov, whom Sumgin cites, had drawn up a plan to be carried out with the help of modern cold technology; this plan envisaged keeping the ground within the construction installations always under a certain temperature with the goal either of preserving the permafrost at a certain depth or even of raising it. However, this proposal has been tried out but little in practice.

Goldi, Olcha, Orochi

101 563 in the winter dog sleds. The position of the women is difficult. Polygamy is permitted. Bride purchase remains today. [342] The Goldi live in small settlements of two to twenty houses, which are built out of mud like Chinese fang-tze /Fansen/. Many of them are half sunk in the earth. In the summer, however, the Goldi gladly leaves his fixed house and moves into his original domed tent, which is covered with birchbark or bast mats. In more recent times many Goldi have taken up the cultivation of vegetables, and they also breed pigs and chickens. The Samaghir, who live on the Gorin, a left tributary of the lower Amur, can be named as relatives of the Goldi. Their culture corresponds to that of the Goldi, but many expressions in their language indicate that they formerly were reindeer breeders. At present they devote themselves exclusively to fishing and hunting. Further downstream live the Olcha, who have also spread to the coast of the Tatar Strait and to Sakhalin. On Sakhalin they call themselves the Orok. The Olcha are also hunters, fishermen, and dog breeders. However, in contrast to the semi-nomadic Goldi, they are sedentary, and they all pursue agriculture in slight measure. Various signs indicate that they also were once reindeer breeders as their relatives, the Orok on Sakhalin, still are today. The total number of Olcha and Orok can scarcely exceed 2,000. More numerous--around 2,500--are the Orochi, who are also often called Udekhe (after the river Udekhe). Split up into numerous small groups, they live in the valleys of the middle and southern Sikhote-Alin' and also on the side toward the sea and the Ussuri. Many of [177] them, especially in the south, are under Chinese influence and speak, reside, and live in a Chinese fashion. However, in the heart of Sikhote-Alin' they have remained rather pure and still live as true forest people, as Arseniev described them, and they show pronounced [141] Tungus traits. The men on the average are 1.60 meters tall, and the women 1.45 meters. Their small hands and feet are striking. [301] Like the Goldi they once wore ear and nose rings, and this custom still exists among the Orochi-Udekhe, although only among the [342] women. They still live in pointed tents in contrast to the domed tents of the Goldi, in which the tent poles are bent together to form a dome and which recall, in their form, the yurts of the Mongols. On long trips, however, the Orochi did not take his tent along, since the tent was too burdensome for him; instead, while he was on his way, he built a simple protective tent out of twigs. The pure Orochi is only a hunter and fisherman. The social order of this people is

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

101 563 [621] [583] [776] [763] [769]

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

[197] [281] 101 563 342

Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their chest but with their neck. The main food of the Gilyak is fish dried [262] in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [141] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role: this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

Koryak, Kamchadal

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563

together in villages in crudely constructed wooden houses. The leather boats, which they still use for hunting and fishing, are disappearing more and more. The Reindeer Koryak have also already grown far from their original culture. They are primarily reindeer breeders and own large herds. They live nomadic life wandering between the valley regions protected from the wind in the winter and the gnat-free mountainous tundra in the summer. The square winter hut, which is built from wood and is half sunk in the earth, is built in imitation of the Russian house. They recall the old pit dwelling of Europe. Only in the summer do they use their round, transportable tent, which in its original form consisted of a framework of poles covered with reindeer skins. Today, however, it is often only a type of board shanty, since their wanderings are mostly limited to short stretches. The winter huts as a rule lie on rivers and are permanent constructions. Older people often remain in the winter huts even in the summer, and accordingly the Koryak must be designated as semi-nomadic. Physically the Koryak are medium to short in height with straight black hair, slight growth of hair on the face, and brown-bronze skin color. They make their clothes out of reindeer, wolf and dog skins, and they make lighter clothing for the summer from seal skin. In this /110/ they show a color-happy feeling for art and decorate their clothing with strips of hide of different colors or with leather which they form into various ornaments.

[342] [142] [281]

The Kamchadal or Itelmen occupy the southern part of Kamchatka Peninsula, primarily the southern part of the western coast and the Kamchatka valley. Their number earlier must have been much greater, for old reports speak of tens of thousands. Today their number can scarcely be determined since a very large part of the people have been completely Russianized. Many have almost forgotten their own language. It is interesting that numerous Russians in the first wave of colonizers are completely absorbed in the Kamchadal and cannot be distinguished from them at all in mode of living and customs. In some villages on the western coast between Zedanka and Zepochnoye there are still pure Kamchadal, who number around 800 (1930). Often these people alone are designated as Itelmen and contrasted to the Kamchadal. They have abandoned their original earth hut, which can still be encountered in the interior as a base for hunters, and they live in clumsy wooden houses of the Russian type. Fishing is their principal occupation. In the winter, however, they move into the mountains to hunt fur animals. Their houses stand unordered in loose groups on the rivers. When the

[77] [342]

563 167 162 Chinese, Koreans, and numerous small indigenous peoples. The disorders of the revolution after World War I brought many Russians to the Far East. Planned measures for colonization instituted by the Soviet government contributed to this, and by 1926 the population east of Lake Baykal reached around 2.3 million and had risen to 4,040,000 persons by the time of the last census on January 17, 1939. The increase consisted principally of Russians. By 1939 in the Buryat Mongolian ASSR the Russians had an absolute majority with 52.7 percent (in 1941, 57.2 percent) of the entire population of 542,000. In the Chita region, with a total population of 1,159,500, the number of Buryat and other natives can be estimated at most at 50,000, and in the Khabarovsk and coastal region, with a total of 2,338,100 inhabitants, the percentage of indigenous peoples is only 3 percent.

The main part of the Russians are occupied with agriculture and cattle breeding. In addition, fishing and hunting serve as an additional occupation. The professional Russian hunter, the "Promyshlennik," a real runner type, still hasn't died out. The number working in industry has increased sharply in recent years.

563 361 342 Even here the Russian peasant continues the life he used to lead at home, and he troubles himself here no less than he did there. Accordingly one can often recognize in the type of settlement where the settler came from, even if it was decades and more ago. The Great Russians, especially those from the northern regions, prefer residences on rivers and in wooded areas. Their houses are built in the same block house style of the "izba" they used to live in. Hunting and fishing are very popular with them. The White Russians also prefer wooded areas. The Ukrainians, on the other hand, are mostly better farmers; they are to be encountered in especially large numbers in the Khanka Lake area, which is relatively free of woods, and around Bochkarevo /now: Kuybyshevka/, and they are descended in large measure from Cossacks who had been sent from the Don area. Their houses show the same whitewashed mud walls and are covered with straw like their "khata" in the Ukraine, although there is really no shortage of wood. Although there are often rivers flowing nearby, they dig a well near the house as a rule because well water, as they say, is cooler and more tasty. Woods in /114/ the vicinity of Ukrainian settlements soon are destroyed; the Ukrainian uses not only the axe but also fire against the woods. The Ukrainians are especially successful with cattle raising.

The cities, too, show the usual Russian face. In the center of the larger cities there are, in addition to narrow tenement houses, some

pompous, mostly very tasteless buildings of the Czarist period. But in the suburbs one-story log houses with four or more windows often line the unpaved streets with wooden sidewalks for kilometers. In the period of the Soviet regime the large cities have acquired entirely new sections which are transected with asphalt streets lined with trees, and on these streets rise light, detached apartment buildings, often with four or more stories; these apartment buildings seem almost like skyscrapers against the otherwise flat picture of the city. Chimneys and thick, reinforced concrete buildings of the factories, which today are most striking, rise above the new buildings as a rule. Thus in the cities there are the contrasts ranging from the old, primitive, peasant-like suburb to the most modern industrial establishments. Nevertheless, almost nowhere does one note that he is in the Far East. Even in the Chinese quarter of Vladivostock there stand the same whitewashed tenement houses, and only the Chinese writing and the nearby junk harbor betray the fact that one is in an east Asiatic harbor city.

The state-directed economy with its tight compression into cities and collectivization in the country has introduced many new traits in the life and work of the people, and many old, proved things have been destroyed. It has mixed people up and done many new things, so that everything is in the process of fermenting, of being reformed even in the folk life of the Russians.

Chinese, Koreans, and Others

In Transbaykal Chinese are encountered very rarely. They used to be there in larger numbers as traders in Maimache, the present Altin-Bulag, opposite Kyakhta on the Mongolian border, but they were driven from there during the uprising of the Mongols after the first world war.

The first Chinese came to the Amur and Ussuri country as ginseng-seekers, as "panten"/unhardened antlers/ hunters, and as traders, and later also as settlers. As culture pioneers they were valuable everywhere in the wilderness where they could practise agriculture, which they pursued industriously and successfully. Their ability to make capital out of everything, however, soon made them into unscrupulous exploiters of the natives, and, accordingly they were unwanted guests under the Russian administration, especially since they carried their rich earnings out of the country, then /115/, as a sworn community in trade, they suppressed all competition. They

563 also engaged in smuggling gold. In 1900 it came to a catastrophe when the Russian authorities drove all Chinese over the border. At Blagoveshchensk nearly 5,000 perished who were chased with force into the Amur. The building of cities and industry, however, drew them again and again into the country as workers, and many of these remained in the country as settlers or also as frugal artisans. Culturally they have had a very strong influence on the natives, who, like the [177] Udekhe in southern Sikhote-Alin', have not only taken over the material life of the Chinese but have even given up their language in favor of that of the Chinese. Chinese clothing and the Chinese houses have asserted themselves as far as the Gilyak on the lower Amur and stand everywhere in competition with Russian influence, which gradually has asserted itself. The Chinese house, the 'fanse,' [342] has mud walls. Its gabled roof is covered with straw. Almost the entire front side is taken up by large windows, pasted over with oil-paper and covered with bars; these windows can be slid out and removed. On the sides and along the back wall there are no windows. [354] In the interior of the 'fanse' a small stove with an iron boiler lies on each side of the door. Smoke ducts lead from these two stoves under [352] the sleeping places which built from stone and mud, extend along the walls and fill nearly half the room. This type of plank bed, designated a "kang," is approximately 0.50 meters high. From these the smoke ducts then lead to the chimney, which is likewise made of stone and mud. Because of the danger of fire, the chimney always stands alone and somewhat away from the house. It is not uncommon for the 'kang' to have its own heating also. The farm buildings are [351] usually attached to the house at right angles, and the square courtyard thus formed is closed off behind by a wall or a fence. The Chinese also like to mark off a rectangular area in front of the house, or to surround their entire lodging with a wall which is often very thick; the natives, however, mostly are satisfied with the house alone, which is often only a wretched, dirty mud hut, whatever the layout.

[162] Of the 87,999 Chinese who lived in Siberia in 1939, approximately half live in the southern Ussuri region; the remainder are mostly scattered in the cities. The number of women among the Chinese is very slight and amounts to only 6 percent. In the southern Ussuri region, therefore, the number of Chinese-Udekhe half-breeds is large; they are generally designated "tas."

The Korean element in the population is entirely different. Some old villages in the Pos'yet area have existed since time im-

133 by a peaked series of hills, which are 50 to 100 meters high. However, individual hills all appear on the floor of the valley, from which they rise with very steep walls. Adjoining this area to the east is a gently rolling and irregular Tertiary hill country, which acts as a transition to the spurs of the Sikhote-Alin'. South of Khanka Lake and also in [137] the Suyfun depression numerous small oak forests have been preserved which give the picture of the landscape a varied and attractive impression. As a consequence of the good drainage the best agricultural land in the area is to be found in the Suyfun depression. But also in the Tertiary hill country agriculture is making good progress. Here are the /270/ most thickly populated sections of the Maritime Krai, in which, however, the entire region near the coast of the Bay of Peter the Great must be included.

563 Great Russians above all are settling in the Ussuri depression.
•342 Their weathered, colorless log houses which are built of wood, are
241 typical of the settlements in this area. Striking, however, in contrast to their homeland are the relatively flat roofs, which probably indicate the slight covering of snow which they have to bear here. Wheat, oats, and barley predominate in the appearance of their fields, but, in addition to corn, native plants, such as soy beans and perilla, are also appearing more and more. Ukrainians are the predominant settlers in the Khanka depression. As has already been indicated, this is based on historical reasons, since people from the Don above all were used in setting up the Ussuri Cossack formation of 1862. But it is still remarkable that it is Ukrainians who are in the majority in this almost treeless province. The bright color of their whitewashed mud houses dominates the settlements, and between the wheat fields corn comes strongly into the foreground. The Ukrainians here have also taken over for themselves the cultivation of sugar beets, just as they have in their homeland back in Europe. But, in addition, the yellow of the mud huts of the Chinese and Koreans also appears already in the individual settlements and in the village communities. These huts are often enclosed by the same mud walls; and in the flat, dammed-up fields there appears the light green of rice plantings, which are predominant in the damp area to the south of Khanka Lake. Further in the south toward the coast there is no longer a clear separation, but along the coast the Koreans increase. They often dress like Russians, but still they are more often dressed in the traditional white of the native clothing.

The breeding of livestock is pursued in the entire area: cows,

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok'). 167 665 883

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry. 661 665

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War. 655

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans. 167 185 361 344

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well- 162 167

563 also engaged in smuggling gold. In 1900 it came to a catastrophe when the Russian authorities drove all Chinese over the border. At Blagoveshchensk nearly 5,000 perished who were chased with force into the Amur. The building of cities and industry, however, drew them again and again into the country as workers, and many of these remained in the country as settlers or also as frugal artisans. Culturally they have had a very strong influence on the natives, who, like the [177] Udekhe in southern Sikhote-Alin', have not only taken over the material life of the Chinese but have even given up their language in favor of that of the Chinese. Chinese clothing and the Chinese houses have asserted themselves as far as the Gilyak on the lower Amur and stand everywhere in competition with Russian influence, [342] which gradually has asserted itself. The Chinese house, the 'fanse,' has mud walls. Its gabled roof is covered with straw. Almost the entire front side is taken up by large windows, pasted over with oil-paper and covered with bars; these windows can be slid out and removed. On the sides and along the back wall there are no windows. [354] In the interior of the 'fanse' a small stove with an iron boiler lies on each side of the door. Smoke ducts lead from these two stoves under [362] the sleeping places which built from stone and mud, extend along the walls and fill nearly half the room. This type of plank bed, designated a "kang," is approximately 0.50 meters high. From these the smoke ducts then lead to the chimney, which is likewise made of stone and mud. Because of the danger of fire, the chimney always stands alone and somewhat away from the house. It is not uncommon for the 'kang' to have its own heating also. The farm buildings are [351] usually attached to the house at right angles, and the square courtyard thus formed is closed off behind by a wall or a fence. The Chinese also like to mark off a rectangular area in front of the house, or to surround their entire lodging with a wall which is often very thick; the natives, however, mostly are satisfied with the house alone, which is often only a wretched, dirty mud hut, whatever the layout.

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316 655 (previously N.K.V.D.). Under the general direction of the latter a powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

635 625 The activities of the Dalstroy are many-sided. The 'Mining Administration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of [461] 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

167 ● 361 The colonization activities of Dalstroy have changed the character of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

167 estimated at 50,000–70,000 inhabitants. Official Soviet sources, while
●361 glossing over the strange origin of Magadan, have described it as an important cultural centre, including several houses of culture, dozens of clubs, cinemas, libraries, and two theatres, one for drama, the other for musical comedy. Former prisoners who passed through Magadan have asserted that the actors of the drama theatre were convicts, but Soviet sources of more recent date declare that they were recruited from Moscow drama schools. By December 1952, Magadan had grown large enough to deserve administrative promotion. A decree of the Presidium of the Supreme Soviet transformed it from a district town into a provincial town.[16]

Magadan is the largest locality which owes its existence to Dalstroy, but there are others further inland. One of them is Atka – a name which, at the first glance, seems to have an exotic Asiatic flavour, but is in reality an expression of the unromantic technological mind of Soviet Russia. It is simply an abbreviation of 'Avtotraktornaya Kolonna' (Motor Tractor Column), a tribute to the pioneer role of motorized transport in a territory without a railway. Even in 1946 Atka had large garages and automobile repair works where work never stopped, 'not even for a single minute'. Moreover, Atka produces electrical equipment for the purposes of Dalstroy.[17]

MILITARY COLONIZATION

167 Another interesting and unusual form of colonization introduced in the
729 Soviet Far East is what might be described as 'military colonization'.
241 Discharged soldiers of the Red Army, artillery and cavalrymen, infantry and members of the signal corps, as well as sailors of the Red Fleet, settled down with their families in the fertile border regions on the Ussuri River. These military colonists formed a kind of peasant militia ready to be called up at any time for the defence of the 'socialist fatherland'. The first 'Red Army' and 'Red Fleet' collective farms were formed in 1931. They soon became the pride of the entire Soviet Far East and the head of the administration of the F.E.T., Krutov, described them as a shining example for the entire Far Eastern peasantry.

Not all demobilized soldiers became agriculturists; some of them remained in the Far East as lumbermen and fishermen and many also worked on the Far Eastern railways, as has already been mentioned. At the beginning of 1938, 5,000 demobilized Red Army men were accepted into the service of railways. They were all provided with houses and small plots, and each of them received a government grant for the purchase of a cow.[18]

167 This last point is particularly characteristic of Soviet colonization
241 policy in the Far East. To increase its defence potential in the Far

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

167 241 Eastern border areas the government made concessions even in the economic sphere. In European Russia only collective farmers were at that time allowed to own a cow as their own personal possession, never industrial or transport workers.

KOMSOMOL COLONIZATION

167 665 833 The military colonization largely overlaps with another special form of colonization in the Soviet Far East, which is carried out with the help of the Communist Youth League, the Komsomol. The Youth League is the backbone of the Far Eastern units of the Soviet Army. Towards the end of the inter-war period 60 to 70 per cent of the soldiers in the Far East were Komsomol members. Hence among the demobilized soldiers, too, there must have been a good deal of 'Komsomol spirit'. The Komsomol influence in the Far East is, however, by no means confined to the army. The entire Soviet Far East has been described as a 'Komsomol Territory'. This is true both in the figurative and in the literal sense. The Soviet Far East is 'komsomolsky' because it is a young pioneer country, but the Komsomol, the Communist Youth League, is also directly connected with the Soviet Far East as one of the principal promoters of its colonization.

Many Communist Youth League members went to the Far East as individuals out of a spirit of adventure and also out of a feeling of patriotic duty. The Komsomol, as an organization, was responsible for two big spectacular actions. One was the foundation of the town Komsomolsk-on-Amur, the other was the movement initiated by Madame Khetagurova.

The history of Komsomolsk goes back to the spring of 1932 when the Central Committee of the Communist Youth League chartered two steamers, *Kolumb* and *Komintern*, which sailed with 400 young people, including a number of Civil War orphans, to the village of Permskoe on the Lower Amur. (The village had been founded as early as 1858 by Russian peasant colonists hailing from the region of Perm in the eastern part of European Russia.) Even the first small party of Komsomol members outnumbered the local population of 160 inhabi- [361] tants. In the second half of 1932 many more young people arrived, and in December of the same year the All-Russian Executive Committee published a decree which transformed Permskoe into the town of Komsomolsk. The decree read well in the Moscow newspapers, but to the young builders of Komsomolsk it must have appeared utterly unrealistic. At the time when the decree was published they were in a state of despair. The building of the town had had to be interrupted in view of the harshness of the Russian Far Eastern winter, and the inexperience of the new settlers had resulted in great complications. During

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

chains traverse it from west to east, and these mountain chains with their spurs in part reach the coast, where they break off sharply. But this area also does not lack plains, for plains extend from the coast into the land on both sides of the rivers. 133

All these areas[1] are either very little settled or are completely uninhabited. Of the Russian coastal settlements only Okhotsk and Magadan as harbors have a certain importance. Worthy of note is the reindeer breeding of the Chukchee on the peninsula named after them. 311

South of the Anadyr' lowland rises the Koryak Range, which fills the entire area as far as Korff Bay. Some mountain ridges, only a little separated from one another, traverse the land in a wide arc from the southern end of the Anadyr' Bay in the direction of the Kamchatka Mountains. Only near the coast have the rivers dug out deep valleys; here forest growth appears, while the high areas and the ridges are covered by pure tundra. 133 [137]

The coast of the Bering Sea has numerous native and Russian fishing settlements; the hinterland, on the other hand, is occupied only by small Paleoasiatic remnant peoples, who pursue reindeer breeding. [361].

Kamchatka Peninsula is one of the most interesting regions in the Soviet Russian Far East. The relief, which just like Sakhalin gets its main characteristics from two mountain ridges, is extraordinarily varied, for numerous young volcanos are set on the mountain ridges, and a number of these volcanos are still active. The Klyuchevskaya Sopka, the highest volcano on the peninsula, rises from the valley of the Kamchatka River to a height of 4,775 meters and makes an imposing picture with its ice-capped peak. Because of the abundant rainfall and the mild climate, the plant covering of the peninsula is very luxurious. On the outer mountain slopes deciduous forests predominate, only /33/ in the interior of the peninsula do fir-pine forests appear. The only exception on a larger scale is the west coast, on which tundra-like moss steppes have developed. In addition to numerous Russians who occupy primarily the coastal fishing villages, the Paleoasiatic Koryak and Kamchadal have remained in the interior. 137 162 361

The volcano belt of Kamchatka continues toward the south in the island chain of the Kurils, which after World War II went to the Soviet Union along with the southern half of Sakhalin Island. 133

1 [i.e. the Okhotsk coastal area and the Anadyr' area -- Analyst]

The Russians

563 167 361 The original Cossack settlements formed the basis of the Russian colonization. According to the treaties of Aigun and Peking, the Amur and Ussuri Cossack formations were put next to the Transbaykal Cossack army assigned to the Argun. In the period from 1858 to 1862, 23 such Cossack settlements with 5,000 people came into being on the Ussuri and 75 on the Amur. These Cossack outposts consisted of loosely laid-out villages and also of individual settlements, which were organized in a military fashion for the protection of the border, but which in addition had to maintain themselves economically. For this there was distributed to them large landed property which extended along the Argun, the Amur, the Ussuri and the Suifun along the Chinese border. Successive settlers attached themselves to these strips of settlements, made them more densely populated or extended them. Thus there came into existence, on the one hand, the remarkably long strips of settlements along the border rivers, settlements which extended into the hinterland only where favorable conditions allowed new land to be developed without much work; and, on the other hand, there came into existence among the settlers themselves a certain organization which can be observed in typical characteristics even in recent times. Near the borders on the better land near the rivers sit the old settlers with large pieces of property; mostly these old settlers are descendants of the Cossacks who, after years of fighting, deprivations, and also successes, became enterprising culture pioneers who did not shy from risks, and who represent a powerful, hard, self-conscious race of people. On the other hand, to the side in the interior, mostly on land of slight value, live the the new settlers who came later; they have preserved all the typical characteristics of the East European Russian with his strengths and weaknesses.

563 167 162 Despite various laws favoring emigration of Russian citizens--the first law in this connection was enacted in 1861--/113/ and despite many facilities and much fostering, colonization proceeded only very slowly in the first decades. All recruiting measures had only slight success. The difficult, long land route through Siberia and also the long sea trip frightened many off. Only with the building of the Transsiberian Railway did a stronger stream of immigration begin, and the population east of Lake Baykal was already 1,622,000 by 1911; of these 1,225,000 were Russians and around 20,000 were other Europeans. Of the remaining population of 379,000, the greater part were Buryat, who numbered 205,000, and the remainder was divided between

563 167 162 Chinese, Koreans, and numerous small indigenous peoples. The disorders of the revolution after World War I brought many Russians to the Far East. Planned measures for colonization instituted by the Soviet government contributed to this, and by 1926 the population east of Lake Baykal reached around 2.3 million and had risen to 4,040,000 persons by the time of the last census on January 17, 1939. The increase consisted principally of Russians. By 1939 in the Buryat Mongolian ASSR the Russians had an absolute majority with 52.7 percent (in 1941, 57.2 percent) of the entire population of 542,000. In the Chita region, with a total population of 1,159,500, the number of Buryat and other natives can be estimated at most at 50,000, and in the Khabarovsk and coastal region, with a total of 2,338,100 inhabitants, the percentage of indigenous peoples is only 3 percent.

The main part of the Russians are occupied with agriculture and cattle breeding. In addition, fishing and hunting serve as an additional occupation. The professional Russian hunter, the "Promyshlennik," a real runner type, still hasn't died out. The number working in industry has increased sharply in recent years.

563 361 342 Even here the Russian peasant continues the life he used to lead at home, and he troubles himself here no less than he did there. Accordingly one can often recognize in the type of settlement where the settler came from, even if it was decades and more ago. The Great Russians, especially those from the northern regions, prefer residences on rivers and in wooded areas. Their houses are built in the same block house style of the "izba" they used to live in. Hunting and fishing are very popular with them. The White Russians also prefer wooded areas. The Ukrainians, on the other hand, are mostly better farmers; they are to be encountered in especially large numbers in the Khanka Lake area, which is relatively free of woods, and around Bochkarevo /now: Kuybyshevka/, and they are descended in large measure from Cossacks who had been sent from the Don area. Their houses show the same whitewashed mud walls and are covered with straw like their "khata" in the Ukraine, although there is really no shortage of wood. Although there are often rivers flowing nearby, they dig a well near the house as a rule because well water, as they say, is cooler and more tasty. Woods in /114/ the vicinity of Ukrainian settlements soon are destroyed; the Ukrainian uses not only the axe but also fire against the woods. The Ukrainians are especially successful with cattle raising.

The cities, too, show the usual Russian face. In the center of the larger cities there are, in addition to narrow tenement houses, some

pompous, mostly very tasteless buildings of the Czarist period. But in the suburbs one-story log houses with four or more windows often line the unpaved streets with wooden sidewalks for kilometers. In the period of the Soviet regime the large cities have acquired entirely new sections which are transected with asphalt streets lined with trees, and on these streets rise light, detached apartment buildings, often with four or more stories; these apartment buildings seem almost like skyscrapers against the otherwise flat picture of the city. Chimneys and thick, reinforced concrete buildings of the factories, which today are most striking, rise above the new buildings as a rule. Thus in the cities there are the contrasts ranging from the old, primitive, peasant-like suburb to the most modern industrial establishments. Nevertheless, almost nowhere does one note that he is in the Far East. Even in the Chinese quarter of Vladivostock there stand the same whitewashed tenement houses, and only the Chinese writing and the nearby junk harbor betray the fact that one is in an east Asiatic harbor city.

The state-directed economy with its tight compression into cities and collectivization in the country has introduced many new traits in the life and work of the people, and many old, proved things have been destroyed. It has mixed people up and done many new things, so that everything is in the process of fermenting, of being reformed even in the folk life of the Russians.

Chinese, Koreans, and Others

In Transbaykal Chinese are encountered very rarely. They used to be there in larger numbers as traders in Maimache, the present Altin-Bulag, opposite Kyakhta on the Mongolian border, but they were driven from there during the uprising of the Mongols after the first world war.

The first Chinese came to the Amur and Ussuri country as ginseng-seekers, as "panten"/unhardened antlers/ hunters, and as traders, and later also as settlers. As culture pioneers they were valuable everywhere in the wilderness where they could practise agriculture, which they pursued industriously and successfully. Their ability to make capital out of everything, however, soon made them into unscrupulous exploiters of the natives, and, accordingly they were unwanted guests under the Russian administration, especially since they carried their rich earnings out of the country, then /115/, as a sworn community in trade, they suppressed all competition. They

memorial. The immigration of additional Koreans, however, began only after the Treaty of Peking, and in this immigration the southern region was their preferred goal. These Koreans always came with their wives and families, and the majority of them were /116/ farmers. They are a valuable part of the population and show especial skill in growing Manchurian plants such as millet, beans, and rice. In addition, they keep cattle as work animals and pigs. They have succeeded in extending the cultivation of rice to the north as far as the Khabarovsk region. Of the approximately 170,000 Koreans (1939) who live in the Soviet Union, around 100,000 reside in the Ussuri region. A part of the remaining Koreans have been resettled in Turkestan where they live as rice planters on the Syr Dar'ya and the Iliysk.

A few thousand Japanese resided in the coastal cities up until World War I, but since then the number has constantly decreased and amounts now to a few hundred at most.

Worthy of mention as a special group are the Jews, who have their own autonomous region west of Khabarovsk on both sides of the right tributaries of the Amur, the Bira and the Bidzhan. Of the entire population, which number 108,400 (1939), approximately half are Jews, who engage in all vocations and who not only come from the Soviet Union but also from other countries.

In addition there are, scattered over the entire region east of Lake Baykal, Poles, Lithuanians, Latvians, Moldavians, Tatar, and others, including Germans; in short there are representatives of all peoples who reside in the Soviet Union. Their total number may be estimated at approximately 20,000 to 30,000.

Distribution, Development, Structure

With the overwhelming vastness of the area and the extraordinarily uneven distribution of the population, figures on the density of population have scarcely any meaning. The main part of the population, comprising about 90 percent, cluster together in a long, extended zone of settlements, which begins at Lake Baykal and stretches along the Amur and Ussuri to Vladivostok. The zone, which is otherwise narrow, attains a greater width in some areas.

In Transbaykal only the river areas of the Selenga and of the Amur are thickly settled, while in between in the area of the Yablonovyy Ridge there is a certain thinning out of the settlements. The valley region of the Selenga, which is occupied primarily by Buryat, attains

361 in some counties a density of 15-20 persons per square kilometer.
161 East of the Yablonovyy Ridge, between Chita and the Argun, there is a second densely populated zone, where the density reaches up to 20 persons per square kilometer in the agricultural area of black earth. The larger northern part of Transbaykal, however, is only very lightly settled, and the wooded wastelands of the plateau area of the Vitim are for all practical purposes not settled at all. Only gold mining has given rise to settlements scattered here and there like dots.

In the Amur area the river itself and the railroad stand out as the guiding lines of the settlement. The narrow area between the two, however, /117/ is not always occupied throughout. In the Zeya-Bureya plain the civilized area then enlarges into an extensive, closed-off plain of settlements; in this plain the landed estates of the former Cossacks lie on the Amur; adjacent to them in a broad band are the cultivated fields of the old settlers, while the new settlers are distributed more on the outer rim. In the Zeya-Bureya plain lies 80 percent of all the cultivated area in the Amur region. In some sections the density of population here, too, reaches 20 persons per square kilometer. East of the Bureya a strip of settlements stretches along the railroad, while a second follows the Amur. In the Khabarovsk area the two meet. From there the thickly-settled zone winds along the Ussuri to the south. After the Iman, a tributary of the Ussuri, the zone stretches out to a width of up to 250 kilometers and so reaches Vladivostok. In this region between Iman and Vladivostok lies approximately 75 percent of the cultivated area of the coastal region.

On the lower Amur there is no extensive area of settlement. Here the population is concentrated in the two cities of Komsomol'sk and Nikolayevsk and in individual villages which lie along the river's course, just as individual village settlements outside of the settled zones described are generally to be found only along the courses of rivers. Even in 1952 there were only 30 kolkhoz in the region of the lower Amur. On the coast of the Ussuri region there are relatively few colonies. The southern part of this coast is somewhat better settled, since the coast is more open and the treasures of the soil existing abundantly there create opportunities for employment for a larger population. The Ol'ga Bay and its hinterland should be mentioned here especially as being heavily settled.

The interior of Sikhote-Alin' like entire distant north of the Far Eastern area as far as the Chukchi Peninsula is extraordinarily thinly settled. Here the density of population sinks to 0.1 per square

kilometer and lower. Here primarily are indigenous peoples, who wander through the vast, immense land as reindeer breeders and hunters. The sources of food in the sea, however, have also lured many people to the coast, on which, at greater or smaller distances from one another, there can be found again and again fishing settlements inhabited by natives, often intermixed with Russians. In recent times fishing kolkhoz have been founded according to plan in all the favorable places, and they have been occupied by Russians. The most important places are at the same time starting points for land routes into the interior; this applies to Ayan, Okhotsk, Magadan, and Gizhiga on the Okhotsk coast. Kamchatka has increased its population greatly in recent years because of the great rise in fishing and hunting of sea animals. In 1950 the total population was approximately 130,000, which was five times as much as it was in 1926. However, the main stream of immigrants came here, too, to the coastal places, especially Petropavlovsk, Ust'-Kamchatsk, and Bol'sheretsk. Despite the important growth in population, the density of population in Kamchatka has scarcely reached 1 person per square kilometer.

/118/ Sakhalin, too, like Kamchatka has had a large immigration. However, here the immigration is explained above all by the development of the petroleum, coal, and fish industries, all of which are located near the coast; accordingly the population is compressed into these areas, while the uneconomic interior is in large measure uninhabited. Only in the valley of the central depression are agricultural settlements encountered. Southern Sakhalin, which was Japanese until 1945, also shows somewhat the same picture in the distribution of its population. The number of inhabitants exceeds that of northern Sakhalin, but here, too, the population is compressed into the coastal area, whereas the interior, as in northern Sakhalin, is occupied for the most part only by small groups of old peoples such as the Olcha, the Orokl, the Gilyak, and the Ainu. In southern Sakhalin there were in 1940 still 1,500 Ainu, who in numbers rank above the other old peoples. The number of the other remnant peoples scarcely reaches 500. The evacuation of the Japanese has given the Soviet Union the task of filling the land with its own people, and, according to all information available, they have succeeded in this. In the process other people have moved in to the former Japanese settlements, but the spatial distribution remains the same. The numerical changes in the population will be discussed later. [166]

The data of the censuses from 1926 to 1939 are available for

51 percent in the coastal district. The increase in the urban section of the population indicates that immigration which formerly served predominantly to foster agrarian colonization, now serves the industrial build-up more.

The increase in the urban population is made graphic in the growth of cities. In 1939 there was a total of seven cities with more than 50,000 inhabitants; except for Blagoveshchensk, they all increased in size, as follows:

	1926	1939	Increase or decrease in percent
Ulan-Ude	29,918	129,417	+ 347.5
Chita	61,526	102,555	+ 56.7 /sic/
Blagoveshchensk	61,205	58,761	- 4.0
Komsomolsk	---	70,764	---
Khabarovsk	52,045	199,364	+ 283.1
Voroshilov	35,344	70,628	+ 99.8
Vladivostok	107,980	206,432	+ 91.2

Almost a quarter (22 percent) of the entire population of the Buryat Mongol ASSR lives in Ulan-Ude. The city of Chita, however, contributes only 9 percent to the population of the region. Here the urban-industrial population is distributed among numerous places. In the Khabarovsk region the three cities Blagovshchensk, Khabarovsk, and Komsomolsk together comprise only 23 percent of the total population and something more than half the urban part of the population. Komsomolsk is a new establishment as a city and did not exist in 1926. In the coastal district the relations are similar to those in the Buryat Republic. Here around 23 percent of the total population is concentrated in Vladivostok alone. Together with Voroshilov, the two cities together comprise 31 percent of the total population. Apart from Chita, then, all the above-mentioned cities are important population centers which stand in contrast to the vast and thinly-settled regions.

/120/ Urban and Rural Population According to the Census of 1939

	Urban Population	Rural Population	Total
Buryat Mongol ASSR	163,425	378,745	542,170
Chita Region	510,900	648,578	1,159,478
Khabarovsk Region	647,653	783,222	1,430,875
Coastal District	464,509	442,711	907,220

K4 361 To these inhabitants listed in statistics for Transbaykal and the actual Far Eastern regions must be added another population, which can to a certain extent be designated as invisible, for figures on this population appear neither in official pronouncements nor in any other Soviet statements. These are the work camps, which /124/ play a not unimportant role economically because of their mobility and their massing of manpower. Little exact information can be given in detail on their employment. It is known that there are work camps in Transbaykal and also in the lower Amur region and further that most of the workers are assigned to building the Baykal-Amur railroad and also to gold and other mining installations in the area of the upper Kolyma and also in other places. The existence of the work camps makes it difficult to judge or to determine the human work potential in the individual regions. In no case can they be overlooked.

161 In conclusion a summary is given of the population in the individual regions according to the calculated level of 1950:

1.	Buryat Mongol ASSR	600,000
2.	Chita Region	1,200,000
3.	Amur Region	900,000
4.	Khabarovsk District	1,500,000
5.	Coastal District	1,200,000
6.	Sakhalin Region	900,000
	Total	6,300,000

161 361 Estimated Growth of the Largest Cities

	1939	1950
Vladivostok	206,432	300,000
Khabarovsk	199,364	300,000
Komsomol'sk	70,764	150,000
Voroshilov	70,764	150,000
Ulan-Ude	129,417	150,000
Chita	102,555	150,000
Blagoveshchensk	58,761	60,000
Artem	more than	50,000
Magadan	more than	50,000

133

(Captions to Map on page 235)

1. Baykal Daur
2. Nerchinsk Daur
3. Vitim Plateau and the northern mountain forest provinces
4. Olekma mountain country and the Olekminsk Stanovik
5. Oldoy-Zeya mountain country
6. Zeya-Bureya plain
7. Bureya mountain country
8. Amur plain
9. Sikhote-Alin'
10. Ussuri-Khanka depression
11. Sakhalin Island
12. Area of the Amgun and the Uda
13. Okhotsk coastal area
14. Provinces of the extreme northeast
15. Kamchatka Peninsula

responsible for 32 percent. On the Transbaykal side, in the area of 228
the Buryat-Mongol ASSR, approximately 30,000 double centner of
fish are caught annually; in good years even more than 35,000 double
centners of fish are caught. Thus a series of fishing settlements animate
the Transbaykal shore. The most important are Nizhne-Angarsk, 361
which lies on the extreme north east tip, Ust'-Barguzin at the mouth [255]
of the river of the same name, where there is also a fish canning
factory, and, south of this, Goryachinsk, which in addition to fishing [312]
is acquiring a growing importance as a health resort because of its hot
springs.

Baykal Daur

Baykal Daur begins in the west with the Khamar-Daban. This 133
mighty mountain massif, projecting up to 2,217 meters, follows the
southern shore of Lake Baykal. Along this shore, runs the railroad
which encircles Lake Baykal and which is forced to follow all its
windings. This mountain massif is little divided and has predominantly
soft forms with dome-like heights which are seldom rocky. These
heights, as Prassolov describes them (160), give the impression of being

160. Prassolov, L.I. Iuzhnoe Zabaykaliye /Southern

deposits can be reckoned among the richest in the Soviet Union. Thus, here in the middle of a remote wasteland a small industrial area has come into being, whose center is the town of Gorodok and which already has more than 10,000 inhabitants. The center is a large wolfram-molybdenum works with modern mines, ore dressing installations, conveying and suspension railroads. The valley slopes here are still grown over by thick taiga. However, toward the east the forest withdraws from the lower slopes, which appear far from one another and form an extensive grass steppe area, which merges with the Selenga steppe without interruption. The valley of the Dzhida is bordered on the south by the Dzhidinskiy Mountain Range named after the river. The Mongolian border runs along the watershed of this mountain range.

The Khamar-Daban continues toward the east with dimensions which become smaller morphologically and geologically. However, the Selenga, which breaks through the mountain in a narrow valley, is usually considered to be the eastern border of the Khamar-Daban. The Selenga circumscribes the eastern part of the Khamar-Daban and empties into Lake Baykal in a broadly projecting delta.

/213/ /Sketch Map of the Buryat-Mongol ASSR:/

/214/ The Selenga Delta is a heaped up plain /Aufschüttungsebene/, which on the mean lies 7 to 8 meters above the water level of Lake Baykal, to which the delta slopes in terraces. The lower terrace, which already bears sea deposits, is completely flat, while the remaining parts are gently rolling. The northeast, the real present-day delta, is traversed by numerous dead and living arms of the Selenga, while the southwest is flowed through by some tiny little rivers, which come directly from the Khamar-Daban. In terms of its landscape, the delta represents a dry steppe, in whose lower, sunken-in parts swamps are imbedded. The delta is fairly heavily populated by Russians and Buryat, who pursue both fishing and agriculture. Irrigation is used in the agriculture. The center of this area is Kabansk, where the railroad coming from the west touches the Selenga for the first time. The products of the fishing are stored here in modern cold storage installations and made ready to be transported away.[1]

From here the railroad uses the valley of the Selenga and reaches Ulan-Ude, the capital of the Buryat Republic, above the break-through by the Khamar-Daban. The city lies on the right bank of the Selenga at the mouth of the Uda, which is navigable by rafts. In 1926 still a small, dusty steppe town with 29,918 inhabitants, Ulan-Ude by 1939 had become a modern industrial city with 129,419 inhabitants. In

[1] [i.e. Kabansk -- Analyst]

•361 this city almost 25 percent of the total population of the Buryat-Mongol
[377] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole Far East. Supported by the Buryat's important breeding of livestock,
[253] the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large
[378] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a rail-
[376] road, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here
[313] again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ 3 /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over
487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak
491 (Chinese: Maimachen). This overland route, expanded into an auto-
496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this
491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

133 peculiarity of these lakes depends on the rock in which they are set. If such lakes lie within eruptive stone, they are as a rule alkali, i.e. they contain and deposit soda (Doroninskoye, Ononskoye, Borgoyskoy
37 Lake). In winter when the climate is dry, soda crystallizes out from the frozen surface of these lakes while strong winds raise up these soda crystals from the ice and deposit them in the immediate and distant environs, thus fostering the mineralization both of the ground water and also of the surface water. In order to extract soda, the soda crystals, which look like a white tinge on the ice, are swept together; thereby 20 to 25 tons of highly concentrated soda lye can be gotten from a hectare of ice surface. In order to foster the crystallization out of the soda, the ice is beaten open so that the lake water comes out under its own pressure through the openings and floods over the surface of the ice. If the lakes lie within Jurassic sediments, then sulphate forms as a rule, especially mirabilite. Deposited under the floor of Selenginskoye Lake is a layer, several meters thick, of sulphate of soda, whose supply is in millions of tons. Alginskoye Lake also belongs in this group. The railroad from Ulan-Ude to Naushki is supposed to lead to the opening up of the important salt deposits in the area of the Gusinoye Lake; the brown coal deposited in the same area is supposed to serve as a basis for this. A large sulphate plant is already in production. At the
361 Gusinoye Lake station a city with more than 10,000 inhabitants has grown from an unimportant village. Coal mines from here supply the railroad. In addition sawmills, brick yards, great dairies, and a fish-canning factory have come into being there. In the fish-canning factory the catch from Gusinoye Lake is processed.

133 The steppe regions which appear in southern Transbaykal vary
137 greatly in their economic importance. In the most southerly areas the artemisian steppe extends over a very wide area: it extends not only over the valley areas but also over the mountain slopes and mountains of the mountain ranges, which here are mostly low. In its driest parts the ground is often covered only 40 percent to 50 percent with plant growth, and the height of the grasses scarcely reaches 15 to 20 centimeters. These are poor meadows. Toward the north, through the thickening /218/ of the covering of vegetation and through the increase in the grasses, this type of steppe gradually changes into the artemisian grass steppe, in which the grasses become 35 to 40 centimeters high. These steppes are used as meadows in the spring and in the first half of the summer--as long as the vegetation still hasn't withered away under the summer heat. Both types of steppes have developed on chestnut-colored

Both types of steppes[1] have developed on chestnut-colored soil. Within these steppes salt-pans also appear. Further toward the north the soil becomes darker, its humus content becomes greater (3 percent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the foreground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Somovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

peculiar only to dry climates. At the foot of the Ikatskiy Mountain Range numerous warm springs bubble up; these springs contain above all sulphates. In addition there are mineral lakes, which, like the Alginsk lakes, lies in a basin of sulphate of soda of significant thickness. Below the locality of Barguzin the mountains come right down to the river and shut off the extended valley basin. Here begins the third part of the Barguzin Valley, the breach valley of the Barguzin toward Lake Baykal. On the right side the mountains press forward right to the river and present picturesque, alluring landscapes. On the left side, on the other hand, the mountains withdraw more or less /220/, making free a flat area along the shore. This landscape on the lower course of the river accompanies the river for almost 40 kilometers. Thus the Barguzin Valley presents an extremely remarkable landscape. Epsom salt lakes between alluvial swamps and lakes in the valley basins of rivers rich in water; wide development of sands with dunes and steppe vegetation; traces of desert-like disintegration; permafrost; warm springs; thick taiga on the circumference; snow-covered mountains in the background: all this shows a heaping up of contrasts such as is undoubtedly rarely found on the earth. The area around the upper course of the Barguzin has alluvial sands rich in gold. For the rest this area is traversed only by Tungus reindeer breeders. The other part of the valley basin is an island of settlements in the middle of uninhabited mountain forests. Numerous Russians and Buryat here devote themselves to the breeding of livestock and to very considerable agriculture with irrigation. The rivers coming from the side valleys of the mountain range are used especially for the irrigation of the fields. The center of the main area of settlement is the village-city of Barguzin, which always has several thousand inhabitants. This city lies on the river of the same name. The Barguzin River is also navigable from here down and, via Lake Baykal, it represents the sole connection with the outside world.

[133] [342] [135] [135] [361]

Just north of the mouth of the Barguzin the Svatoy Noz Peninsula adjoins the land. This peninsula forms an island which is 55 kilometers long and is transversed by two mountain ranges which are up to 1,587 meters high. Only later is this island joined to the shore by a flat narrow piece of land. The material for this is supplied by the Barguzin, the heaping up and the alluvium provide for the current and the waves of Lake Baykal. The original view that the peninsula is a continuation of Ol'khon Island has shown itself to be incorrect, as Busch has shown. On the contrary Ol'khon Island is an underwater ridge running to the

/33 northwest of the peninsula and separated from the peninsula by a channel. The Ushkani Islands northwest of Svatoy Noz, on the other hand, rise on this ridge and consist of the same stone as Ol'khon Island.

South of the Uda valley depression there next follows in parallel strips, running in the direction of Lake Baykal, the ridges of the Tsagan-Daban and the Khudunskiy Mountain Range, then--beginning in the west on the Khilok--the Saganskiy Mountain Range and the Tsagan-Khurtey, which is bordered on the south by the broad valley of the Khilok. The railroad follows the upper part of the Khilok. Between Khilok and Chikoy there then rises the Malkhanskiy Mountain Range which on the east flows into the Yablonovyy Ridge. All the valley depressions, such as that of the Uda, the Khilok, and the Chikoy, which on the west over a great width melts into the Selenga steppes, put on a different face the farther one goes to the east. The differences in height between the bottom of the valleys and the ridges become smaller, the slopes become flatter, the mountain forms become round, often with almost flat watersheds. The bottoms of the valleys lie at 850 to 950 meters above sea level, the passes have a height of 1,000 to 1,150 meters, and the peaks are 1,200 to 1,400 meters high. Toward the east the climate becomes markedly more contrary and damper, and accordingly the bottoms of the valleys /221/ show signs of increasing swampiness.
•361 Correspondingly the population, which is limited almost exclusively to the valleys, also decreases toward the east. Because of the railroad line the valley of the Khilok is the best inhabited. In this connection Petrovsk-Zabaykal'skiy should be mentioned. It lies on the railroad line coming from Ulan-Ude on a section between the Saganskiy Mountain Range and the Tsagan-Khurtey and has the largest single foundry in Transbaykal. The iron ore is delivered by the mines of Balyagansk northwest of Petrovsk, and the coal comes from Tarbagatay and Khalyarta in the valley of the Khilok. All three localities lie not far from Petrovsk and are connected to the main line by railroads. The valley area of the upper Khilok and that of the Chikoy are distinguished from the other regions in Transbaykal by the fact that in these valleys summer rye is well cultivated as grain for bread, while otherwise the cultivation of wheat predominates.

Apart from the above-mentioned coal mining localities, the city-like settlements of Khokhotuy and Bada, known for their processing of lumber, and also Khilok and Mogzon lie on the railroad line east of Petrovsk-Zabaykal'skiy and still in the valley of the Khilok, which flows into the Selenga. Khilok and Mogzon have, in addition to food

industry, metal and machine factories. East of Mogzon the railroad crosses the Yablonovyy Ridge and enters Nerchinsk Daur. 361

Nerchinsk Daur

The Yablonovyy Ridge, which is among the best known mountain ranges in Transbaykal, forms the boundary between the two Daurs. The Yablonovyy Ridge forms the watershed between the rivers flowing into the Amur and those flowing into the Selenga, and thus in the broadest sense it separates the sphere of rivers flowing into the Pacific from the sphere of rivers flowing into the Arctic Ocean. However, this applies only to its southwestern part, for above the Chita River the Yablonovyy shoves in between the Vitim and its tributary the Karenga, and further to the northeast it divides the river area of the Vitim from that of the Olekma, all of which flow toward the north to the Lena. In addition, the Yablonovyy Ridge forms a remarkable climatic and plant-geographic border. The influences of the east Asiatic monsoon penetrate as far as this mountain range and permit deciduous trees to flourish here as representatives of a more moderate climate. West of the ridge deciduous trees are lacking. In this connection the height of the ridge is not so significant as to permit such an influence to be expected. /33 [37]

The Yablonovyy Ridge generally attains a height of only 1,200 to 1,300 meters. Its highest point, which is 1,670 meters high, is the Sarakan, which lies northeast of Chita and which as a golets projects alone from the otherwise very monotonous surface. The relative differences in heights between the valley depressions and the ridges are, however, only insignificant. The railroad crosses the mountain range west of Chita at the Yablonovaya station at /222/ a height of 1,050 to 1,070 meters. The pass here lies only 105 to 125 meters above the valley of the Khilok on the northwest but it is 305 to 325 meters above the bottom of the valley of the Ingoda with the decline to the Ingoda valley also being shorter and steeper. This asymmetrical structure with a steeper southeastern slope and a flat northwestern slope is a characteristic of almost all the mountain ranges in Transbaykal. Obruchev explains this contrast by the effects of the frozen earth by means of solifluction and heavier erosion. The ridges themselves also appear little in the picture of the landscape. From the valley of the Khilok the slope rises slowly to the watershed, which appears to be an almost level rampart. The ridge itself is a more or less plain which is covered with thick forests. Sunk in this plain are saddle-like hollows taken up by swamps. From

133 these hollows, as a rule, the rivers find their origin.

Southeast of the Yablonovyy Ridge and its western continuation, the already-mentioned Malkhanskiy Mountain Range, there extends the rather wide valley of the Chikoy and of the Ingoda, which is for
• 361 the most part settled by Russians. Here the Russian villages lie along the rivers like pearls on a string, while only a few kilometers away there stretch mountain forests which are still uninhabited. The best connections to these areas of settlement are from the railroad stations of Khilok and Mogzon.

The capital of the region, Chita, lies at the point where the Chita River flows into the Ingoda. After the construction of the railroad line, Chita quickly developed from a small town into a large city, which by 1939 already had 102,555 inhabitants, and at present its population probably already exceeds 150,000. The city is built on both sides of the river of the same name, and, lying 660 meters above sea level, the city rises like an amphitheater on two terraces of the land rising toward the north. It lies in a dry, healthy region. Chita constitutes the economic center of the entire region. It is especially known for its fur and leather processing. In addition, there are concentrated in the city important flour mills, saw mills, and
[BK] rather large repair shops for locomotives and railroad cars. A few
[217] kilometers west of the city lies the Chernovskiye Kopi, one of the most important coal districts in the area. Natural calcinated soda is extracted from the Doroninskoye Lake, which lies further up in the valley of the Ingoda.

133 From Chita the Ingoda breaks through on the southeast first the Cherskiy Mountain Range and then the Daur Mountain Range, and, then again bending in the direction of Lake Baykal, it finally follows the depression between the Daur Mountain Range and the Borshchovochnyy Mountain Range. In this depression the Ingoda unites with the Onon, which comes from the south. These two rivers then form the Shilka, the left source river of the Amur.

Approximately 60 kilometers below the point where the rivers flow together, and at the Nercha which flows into the Shilka from the north, is the city of Nerchinsk (28,000 inhabitants), and 85 kilometers further down lies Sretensk. Here the well-known Nerchinsk steppe island stretches on the left side of the Shilka, principally between the Shilka's two tributaries, the Nercha and Kuenga. /223/ /Sketch Map of Chita Oblast:/ The bulk of this steppe island consists of an almost ideal plain. The rest of the steppe island is gently

rolling with gentle rises toward the edges. In the ground lies a granite /33
foundation, over which is liparite and tuff, covered over by a thick layer of lacustrine deoposits, which point to the formation of the steppe basin from a former lake (Gladtsin, 69). Striking is the present day

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science, (Moscow, 1938), p. 174.

dryness, which forms a sharp contrast to the forest landscapes surrounding the steppe island. The low position (620 to 680 meters above sea level) as a depression between the contiguous mountain chains, may well be the reason for the special climatic conditions prevailing here. The fertile steppe still, in many cases designated as black earth, has lead to thick settlement, and, accordingly, the grass steppe only rarely now shows itself in its original dress. The levelness of the steppe is interrupted only by flat, mostly dry valleys with gentle slopes. /224/ In the deeper places there appear damp meadows, often swamps, and also not uncommonly even salt-pans. The slopes of the valleys sloping [137] to the north are overgrown with birches, poplars, meadows, and bushes, especially if the valleys have the character of a ravine. The transition to the forest landscapes occurs quickly. However, the souther slopes remain free of forests the longest and often appear in contiguous taiga as small forest steppe islands. Toward the Shilka the steppe plain breaks off with a steep, heavily valleyed, high step, which from the river often gives the impression of a mountain land. Next to the dairy and meat economy, the cultivation of grain stands in first place in the agriculture of the steppe island. The economic center is Nerchinsk [361] with its mill plants, brandy and alcohol distilleries. In terms of transportation Sretensk has a better location, for there the regular Amur shipping begins. West of Sretensk in Kokuy there is a shipyard.

The Transbaykal Railroad runs from Nerchinsk on further on the 49% left shore of the Shilka as far as Kuenga, and from here a branch railroad leads to Sretensk. The main railroad line, which from here on bears the name of Amur Railroad, leaves the Shilka Valley at Kuenga and circumscribes the Shilkinsk Mountain Range in a great arc. Here 316 in the north, lying in a side valley of the Kuenga and connected by a railroad line, are the coal mines of Bukachacha, which in their production stand in first place in Transbaykal, and farther to the east around the Mogocha Station lie extensive gold fields.

There are Russian settlers only on the outer edge of the region in the valley-plains of the main rivers; the entire, vast interior, on the other hand, is completely uninhabited. 133 [361]

The Manchurian Railroad branches off from the Karymskoye station between Chita and Nerchinsk. This railroad strikes the direct route to Vladivostok via Harbin. The last Soviet Russian station is Otpor, which /227/ lies opposite the Manchurian border. The railroad runs directly to the southeast and, in the process, crosses over all the mountain ridges almost at a right angle. After the Borshchovochnyy Mountain Range, there follows the Gazimur-Onon ridge, which reaches south of the Gazimur River to the Argun, and then the Erman, Nerchinskiy, Klichinskiy, and finally the Argun mountain ranges. All these mountain ridges run in the direction of Lake Baykal and run almost parallel to one another. The Gazimur-Onon ridge extends along the middle course of the Onon on the north side of the river until the break through of the river. The Gazimuro-Onon ends on the Argun between the Gazimur on the north and the Uryumkan on the south. It is never over 1,000 meters high. The Erman Mountain Range is already divided into two parts by the Tarey Basin which has no outlets. In the picture of the landscape of the entire region a gradual change is apparent from northwest to southeast, and also one from northeast to southwest. [496]

From northwest to southeast, i.e., in the direction of the Manchurian Railroad, the ridges gradually become lower, the differences in height decrease. The coniferous forests and likewise the swamps disappear. A striking wealth of birches enters, covering first the ridges, then only the northern slopes, and finally making way for the pure steppe. In the process salt-pans can already appear in the depths.

To the northeast, toward the Argun, all the mountain chains become higher, the Erman Mountain range reaching up to 1,400 meters, the Nerchinskiy Mountain Range reaching up to 1,300 meters, and the Argun Mountain Range reaching 900 to 1,000 meters. In the regions whose waters empty into the Argun, especially in drainage areas of the Gazimur, Uryukan, and Urov, the land has the character of a medium mountain range with peaked heights, deeply etched river valleys, and larger relative differences in height (300 to 500 meters). The undeveloped water network with great drops and numerous stony current rapids and waterfalls points to a recent elevation of this region, whose landscape can be designated as the Argun type. Toward the southwest the absolute height of the ridges decreases, the relative differences become smaller (100 to 150 meters on the mean), the valleys become wide, the rivers form great arcs and numerous meanderings.

2 [i.e. in the area between the valley of the Ingoda, Chikoy and the Onon -- Khalgol

133 Side erosion predominates. Gradually the ridges dissolve into hills. This landscape, designated by Presnyakov as the Gobi type, takes up the entire southern part of the Argun region. Here are the mountain steppes of the Onon and Argun. The Tarey Basin, which is also designated as Onon plain by Russian geographers, should be named as the third province. The Tarey forms a basin with no outlets and extends beyond the Mongolian border as far as the Kerulen. In the center lie the Tarey lakes, of which various ones cover a significant area. Thus the Barun Tarey covers 435 square kilometers, and the Sun Tarey covers 300 square kilometers. The countryside is for the most part level and is interrupted only by former river valleys and lake basins which are now dry. The /228/ remaining lakes lie 60 to 70 meters below the general surface, i.e. at an absolute height of 620 meters, but they are always still up to 5 meters deep. Despite the clear signs of recent drying up, water springs appear in many places on the surface. These springs form the centers of human life. The steppe character often gives way already here to wasteland forms.

The border between steppe and forest extends from Aksha on the middle Onon via Il'inskaya to the north to the watershed between Aga and Ingoda, then on the Ingoda to the east to the mouth of the Aga. From here the border circumscribes the Argun mountain country in an arc swinging to the south via the localities of Onon-Borzya, Akatuy, and Algachi. The border then turns again toward the northeast via Nerchinskiy-Zavod to the Argun.

Southeast of Chita there begins the Aginsk steppe, a true grass steppe, which takes up the river area of the Aga and the middle Onon. [231] Here lies the national oblast of the Buryat, who have made the area into an important livestock-breeding region. The Argun steppe takes up the entire southeast, where livestock breeding likewise dominates the economy. But here there are Russians, who pursue the breeding of cattle and sheep in large, specialized, state farms. In addition, there are also some state farms for horse breeding. To the north of [241] both steppes agriculture, with wheat as the main product, is diffused over a large area, and in a broad front it penetrates to the south. [361] Along the great rivers and also along the Argun the villages extend in a line through the middle of the steppe. The diffusion of agriculture [134] is favored by the circumstance that, despite the often very poor steppe vegetation, a horizon very rich in humus, a type of black earth, has developed under the pitted grass /Grasnarbe/.

000 The wealth of natural resources is, however, of far greater

The wealth of natural resources is, however, of far greater significance for the economic development of the future.* In this connection the non-ferrous metals in addition to iron ore should be mentioned primarily. The still insufficient connection with the transportation network, however, offers the greatest handicap to the exploitation of the natural resources. Apart from the railroad line which runs from Karymskoye to Otpor to Manchuria, there are only land routes available. Even the very important zinc-lead mines in Khapcheranga, in Mangut, and on the Sokhondo can be reached from the Ulstuy station, west of Karymskoye, only by a built-up land route which is around 320 kilometers long. And by the same route, too, the produce of the mines must be brought to the railroad line on trucks. Because of the smaller differences in height the land route along the Onon valley to the Olovyannaya station has recently been used in perference to the above-mentioned route, which crosses more mountain ridges. Also the regions in the angle between the Manchurian side branch of the railroad and the Argun can only be reached by built-up land routes and truck transportation. Borzya on the railroad line appears to be developing here into the traffic center. Toward the east a narrow-gauge railroad leads to the /229/ non-ferrous metal mines of the Argun district, and toward the southwest a similar line leads to Choybalsan in the Mongolian People's Republic. The city itself, located in the middle of the Argun steppe which is rich in livestock, has a large meat plant. In addition to Borzya there should also be mentioned on the Manchurian branch of the railroad the city of Olovyannaya, which has already been mentioned several times and which is known for its tin works. The bulk of the other localities have already been listed in the discussion of the natural resources.

*[i.e. of the Aginsk steppe -- Analyst]

The Vitim Plateau and the Northern Forested Mountain Provinces

To the north of the Yablonovyy Ridge, spreading east of the Ikatskiy Mountain Range, is the Vitim Plateau, which is adjoined on the north by a series of mountain ridges. The entire region represents a forest mountain range landscape, which climatically is very raw and which makes it very difficult for man to make his way here. Agriculture disappears almost entirely here or is limited to small islands which are scattered sporadically. Only Tungus hunters and reindeer breeders in small numbers traverse the thick taiga and pass a laborious life. However, these wastelands conceal extraordinarily rich gold streams, which are diffused especially in the central part of the Vitim Plateau and which have brought into being active gold

scarcely to be differentiated from its southern opposite. The valley of the Upper Angara, which opens onto Lake Baykal, has a certain moderation in climate, and accordingly there exist in this valley some agricultural islands occupied by Russians. Otherwise the entire region--apart from hunters and some Reindeer Tungus--is as good as uninhabited. This applies also to the mountain ridges lying farther north, such as that of the Upper Angara, its eastern continuation, /234/ the Delyun-Uramskiy Mountain Range, and the Mama Highland. Only far on the other side of this uninhabited zone, in the southern part of the Patom Plateau on the lower Vitim, are settlements worthy of mention encountered: such as Bodaybo, Leninsk, and Artemovsk, which the wealth of gold there, too, has caused to come into being. But all of these areas already lie outside of Transbaykal and can therefore be mentioned only peripherally. They belong to the sphere of influence of the actual Lena and tend economically toward Irkutsk and Yakutsk.

133

[361].

The Olekma Mountain Country and Olekminsk Stanovik

With this region we encounter vast areas, which are almost uninhabited in most of the northern part and which are still very little explored. Thus even the relationship of the large mountain chains can still not be clearly laid down. Best known still is the most southerly part, which extends as a narrow strip along the Amur and whose waters also empty into the Amur. Thanks to the Amur Railroad, which runs almost parallel to the river at a distance of 50 to 75 kilometers, these sections are also more strongly incorporated in the economy and brought nearer to civilization.

The eastern border of the province is formed by the Olekma, its right tributary the Nyukzha, and the Amur tributary, the Oldoy. The western boundary is clearly marked only in the north by the Vitim; in the south, on the other hand, between the southeastern bend of the Vitim and the Amur, the border is undetermined since the Transbaykal mountain ranges continue here into the Olekma region without interruption.

The Yablonovyy Ridge pushes between the Vitim and the upper course of the Nercha into the area as far as the middle course of the Olekma directed toward the north. The Yablonovyy here stretches on the northern side of the upper course of the Olekma and divides its tributaries from those of the Kalakan and the Kalar, which empty into

133 Gold streams are mined on the Ketemakhta, a left tributary of the
[316] upper Kalar. Connection with the outside world is provided by
[487] mountain paths, which lead toward the south to the Mogocha Station on the Amur Railroad.

The Olekminsk Stanovik comprises the entire area around the upper course of the Olekma and at the same time forms the watershed for the Amur. The entire region is described as a forest-covered plateau, whose general height lies between 950 and 1,000 meters. The river valleys are mostly deeply etched, and lie 80 to 200 meters below the surface of the plateau. The ridge between the Olekma and its right tributary the Tungir bears the name of Dzhaliro-Tungirskiy Mountain Range; otherwise individual designations are not known. The watershed for the Amur forms a flat ridge, which generally is only 800 to 900 meters high. Toward the south, toward the Amur, this ridge gives way very quickly to hilly country, which is interrupted by the broad valley areas of the numerous waters flowing into the Amur. The most important of these is the Amazar, whose valley
[137] is also used for a stretch by the Amur Railroad. In contrast to the thick larch forests, which cover the bulk of the Stanovik, the vegetation on the slopes inclined toward the Amur includes numerous deciduous
316 trees and thus shows already a more friendly picture. Gold is the most valuable product of the regions. The river valleys between the upper Tungir and the Amazar are especially rich in gold. These valleys are very well opened up because of their nearness to the railroad. The center of gold mining is the city of Mogocha, which has approximately 30,000 inhabitants. It lies on the railroad on the left side of the Amazar. The alluvial sands of the little rivers flowing into the Amur also have gold and, therefore, from early times have
• [361] enticed many men who then remained in the land. Accordingly, the entire strip of land between the railroad and the Amur is relatively thickly settled. Worthy of mention here is the valley of the Urusha, which is crossed /237/ by the railroad at the station of the same name. In the vicinity of Urusha brown coal deposits have been determined, and, west of Urusha in the vicinity of the Yerofei Pavlovich station (which has more than 20,000 inhabitants), there are also usable tin deposits.

The Oldoy-Zeya Mountain Country

133 East of the area around the upper course of the Olekma, the

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Stanovoy in two places, reports, it is characteristic of the entire structure of the Stanovoy that the plateau in the middle slopes both toward the north and also toward the south in step-shaped breaks, which stretch in a latitudinal direction. Also in terms of landscape there is a difference between the two outer zones. In the north the valleys are mostly filled with forest, and only the deepest places are taken up by moss hills and moss swamps, while the heights appear bare of forest and are covered with rock ruins and boulders or consist of smooth, steeply towering, contiguous bare rock. In the south, on the other hand, /239/ all the heights have thick forests, and only the valley areas are without forest, as a consequence of the greater swampiness. In contrast to the rest of the Stanovoy, the area around the source of the Zeya is also mountainous in the south.

[137]

South of the Stanovoy stretches the upper Zeya's broad graben depression which is filled with forests and swamps. Opposite it and coming from the west is the valley of the Gilyuy which is significantly narrower. Both are among the richest gold fields in the Far Eastern regions and are, therefore, better known. The valley floors and even the gentle plateau slopes are mostly covered with a thick layer of moss drenched with dampness, while thick larch taiga grows on the better-drained slopes and elevated places. Deciduous trees occur here only very rarely. As a consequence of the predominant permanently frozen earth, there are often moss hills containing ice cores. These hills are often several meters high, and, if they appear in large numbers, they give rise to a landscape similar to a hill tundra. The crossing of such moss swamps is made difficult by the fact that the frozen earth has gaps, probably because of warm springs, and, accordingly in such places one can sink to unfathomable depths. Where gold mining is pursued, the taiga as a rule is destroyed beforehand by forest fires set off intentionally. The taiga thus gives way to a horrible, plundered landscape, in which there are numerous, deserted huts, which, overgrown with bushes, are falling into ruin and increase still more the despair of the picture. The region does not have larger localities. There are some villages, such as Potekhino and Bryatan in the center of the depression, in which there are larger supply warehouses from which the widely scattered settlements of gold washers are supplied. The extraction of gold, now run by the state, brings rich yields and has made the depression into one of the most important gold areas in the Far East. The gold streams lie along the Zeya and the Gilyuy and their tributaries. The very great swampiness and the existence of

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133 northern edge it represents.

The Oldoy Highland is the smallest part of the region as a whole, and it comprises the area between the Yankan Mountain Range and the Amur. Already from the region around the source of the Oldoy toward the south the landscape flattens out and dissolves into individual ridges, mountains, and valley areas, giving the overall impression of a mountainous and hilly landscape. Toward the southeast, between the Urkan and the Amur, the broad hill ridges gradually disappear altogether, and the landscape here flows into the so-called Amur-Zeya plateau, which already belongs to the greater landscape of the Zeya-Bureya plain area.

491 496 The Oldoy Highland is traversed in the north by the Amur Railroad, from which a railroad line to the Amur harbor of Dzhalinda branches off in Skovorodino (more than 20,000 inhabitants), the seat of a railroad office. Thus, in terms of transportation, this region is quite well opened up. This is also true of the most heavily populated parts within the overall region. The alluvial sands of the rivers to the north of the Amur Railroad, especially the valleys of the upper Oldoy, and of the Great and Lesser Urkan, are rich in gold. The built-up highway which is mentioned above and which can be used throughout the year, leads from the station of Never (around 10,000 inhabitants). This highway crosses the Tukuringra Mountain Range and the Stanovoy in its western part and goes via the Aldan gold fields to Yakutsk. It reaches Tyndinsk in the area around the upper course of the Gilyuy. This important highway has recently been supplemented by a railroad line from Skovorodino to Tyndinsk, where there is a spur to the great Baykal-Amur Railroad (BAM). With this a direct cross-connection between the Amur shipping and the BAM is supposed to be created. The new railroad line, in addition, opens up new areas for settlement, just as the construction of the Amur Railroad has become a pacemaker for heavier settlement by an agricultural population. Also in the less swampy valley areas between the railroad and the Amur River agriculture is 361 pursued relatively actively. Accordingly, a lively food industry and also machine building shops and repair shops have been able to develop in Skovorodino, which has already been named as the center of the Oldoy Highland. Brown coal, which is mined in the vicinity, is used as the raw material for energy. To the north of the city tin supplies [509] have been determined. An airfield in the vicinity connects Skovorodino to the great airline running from Moscow to Khabarovsk to Vladivostok.

361 Only in the southeast in the triangle between the Amur and the lower Zeya is there an agricultural settlement covering an area of any size. In the rest of this region a zone of settlements with many gaps accompanies the Amur and the railroad.

496 The Amur Railroad runs approximately along the middle of the plateau and uses the watershed exactly, since along the watershed there was, for understandable reasons, the best and the easiest opportunity for marking off. A branch railroad, 38 kilometers long, leads from Ushumun station to Chernyayevo on the Amur, in the center of a region with great prospects for the future, for here only a few years ago hard coal deposits were determined. These deposits stretch along the left side of the Amur between its tributaries, the Urinda and Magdagachi, i.e., approximately around the locality of Chernyayevo mentioned above. The coal is of Jurassic age and lies in individual anticlines, which stretch toward the northeast. Although, judging from individual tests, the ash content of the coal is supposed to be great, the deposits have a prominent significance because they lie in a region /243/ /Sketch Map of the Amur Oblast:/ which formerly had to be supplied with coal from a great distance. In some places the coal-bearing layers are broken through by granite laccolite and porphyry effusions, and thus the coal here has been transformed into valuable semi-anthracite and full anthracite. Nothing is known of the total supply in the deposit designated by the Russians as the "Upper Amur Coal Basin." There are numerous outcroppings on the Amur and in the individual river valleys. Very recently the mining of the coal deposits in the vicinity of Madgagachi has begun.

361 The principal locality in the northwestern part of the plateau is Magdagachi (approximately 10,000 inhabitants); the principal locality in the southeastern part is Shumanovskaya (approximately 25,000 inhabitants). Both of these towns lie on the Amur Railroad.

487 The Tygda station between Madgadachi and Ushumun has greater significance in terms of transportation. A land route leads from Tygda via Ovsyanka, which lies at the point where the Zeya and the Urkan flow together, to the Tukuringra break-through of the Zeya. This is the shortest land route connection from the Amur Railroad to the gold fields on the upper Zeya and the Gilyuy.

133 /244/ East of the lower Zeya begins the Zeya-Bureya Lowland, which stretches toward the east along the Amur over a broad area extending beyond the lower course of the Bureya. The end of this low plain is prepared by the high embankment of the Bureya Mountain

Region/. Pochvovedniie, 1911.

133 The northern part of the Zeya-Bureya plain lies generally below 500 meters above sea level and declines toward the lower Zeya and the Amur, /247/ /Sketch Map:/ /248/ where the greatest part lies at less than 200 meters above sea level. At Blagoveshchensk the Amur has a height of 120 meters. In individual places the substratum comes out from the flatly deposited Tertiary layers in the form of individual rocks, which consist of granite, Jurassic conglomerates and Jurassic sandstone, or also of porphyry.

The great dampness of the Zeya-Bureya plain, which arises from the excessive summer rainfall, leads in the unlevel regions to hanging landslips and solifluction phenomena of manifold types, which cause great difficulties in the construction of roads and installation of railroads, especially when--as, for example, in the country of mountain spurs--permafrost appears. The peasant fights constantly against threatening swampiness by draining his land. Despite these [311] difficulties, the area under cultivation is increasing continually. The swamps, which as a rule are covered with clusters of grass, are turned into hay fields by fires set off every year, and these hay fields in turn are then turned into cultivated land.

•361 Settlement is very thick, and in the valley area of the Zeya, Selemdzha, and Bureya it penetrates farther and farther into the interior. In the plains one can often see from one village to the next one. The settlements differ in no respect from those in the Russian homeland. And when in mid-summer sunflower fields glow between the yellow gold of wheat fields, one might feel himself transported [241] to southern Russia. The cultivation of soy beans and perilla, which here lays claim to a significant percentage of the area under cultivation, [496] appears foreign, however. The railroad crosses the Zeya at Svobodnyy (10,000 inhabitants), where an active wood industry has developed. A branch railroad, which is 108 kilometers long, leads from Kuybyshevka with its more than 10,000 inhabitants to Blagoveshchensk (58,700 inhabitants), the capital of the region. The city extends along the shore of the Amur for a distance of almost 8 kilometers, toward the mouth of the Zeya. The Zeya here is 2 kilometers wide and exceeds even the Amur into which it flows. The city is the center of the entire agricultural area and has numerous flour and oil mills. In addition, the processing of lumber also plays a large role. The lumber is floated here on the Zeya and the Amur. Opposite Blagoveshchensk,

on the Manchurian side, lies the city of Heino (Sakhalyan), from whence there is a spur to the railroad network of Manchuria. The area around the lower course of the Bureya has the same character in terms of landscape as do the plains on the Zeya. The nearness of the highland permits the basic rock to come out more often here. The population is likewise dense and in the valley of the Bureya penetrates farther toward the north into the highland. The center of the region is the little city of Bureya, which lies at the point where the railroad crosses the Bureya River. A railroad line, which is 43 kilometers long, branches off from here to Raychikhinsk, the center of the largest brown coal deposit in the Amur country. Zavitaya, from which a new railroad line has been built to Poyarkovo on the Amur, /249/ has acquired a growing importance during the most recent period.

The brown coal fields lie between the railroad and the Amur and stretch from the Bureya in the east to the Zavitaya in the west, covering an area of 600 square kilometers. Raychikhinsk and Kivdinskiy are the centers of the coal mining. The transporting of the coal is done for the most part by railroad to the Bureya station, where there are opportunities to transfer the goods to river shipping.

The northern part of the Zeya-Bureya plain is drained primarily by the Selemdzha. The population here decreases rapidly toward the north, and settlement is limited to the valley areas of the rivers. On the Zeya, settlement reaches to the town of the same name at the foot of the Tukuringra Mountain Range; and on the Selemdzha, settlement ends approximately at Norsk. Both rivers are regularly traveled by steamships as far as the localities named. With the new construction of the BAM, which goes from the middle Zeya and runs through the area toward the east and crosses over the Selemdzha at the locality of Norsk mentioned above, new prospects have opened up for the further development of these regions, which are favorable for settlement but which in the past were too remote.

The Bureya Mountain Country

The Bureya Highland has a central position in the Amur country. It forces the Amur to make its large southern bend; and, in the south where it joins the Little Khingan, it makes a path to the east free for the Amur only in a narrow break-through valley. In the same place the Bureya Highland shoves itself like a wedge into the great depressions running along the Amur and separates the Zeya-Bureya plain in the

Mountain Range to the upper course of the Tyrma and then follows this river to the point where it empties into the Bureya. The railroad had already been completed as far as Ust'-Tyrma in 1942. Since then the construction of this railroad, which now runs parallel to the course of the Bureya, has been continued via Chekunda to Umal'ta. With this an outlet has been created for Bureya coal toward the south to the Amur Railroad, but the waterway of the Bureya is also used to transport the coal away. The expansion of this waterway is being worked on. In addition, there is the fact that the Baykal-Amur Railroad also crosses the same region. This railroad leaves the Selemdzha at Norsk, crosses the Turana Ridge and reaches the middle course of the Bureya at Chekunda, to continue further over the Bureya Mountain Range to Komsomol'sk.

The construction of both these railroads in the sphere of the Bureya Mountain Range has above all an industrial significance. Next to coal, wood is the most important item for transport which this region can supply. In the traffic going the other way, the bringing in of food is probably the main task of the railroads. The Bureya also plays a certain role in this connection; for, according to various reports, continuous loads of grain go up the river during the period when it is navigable. The supplying of the new Bureya coal region must be assured from outside because the Bureya valley itself is very unfavorable for agricultural settlement. Everywhere here the Bureya has the character of a mountain river. Its valley between Ust'-Umal'ta and Ust'-Niman is up to 3 kilometers wide, but the river, which here is very wild, regularly floods a part of this country and causes extensive swampiness. From Ust'-Niman to Chekunda the right bank is steep and rocky; the left bank is, to be sure, level, but it is taken up by swamps which are difficult to travel. Below Chekunda as far as the settlement of Paykan the valley narrows, and on both sides the rocky mountains come right down to the shore. Only shortly before leaving the mountain ranges does the valley meadow widen into an area favorable for settlement. Thus the prospects for agrarian settlement in the area of the Bureya valley are not very good, and it will require long years of difficult cultivation work before the new coal mining region will be able to supply its own food.

If we survey the entire Bureya Highland, then, it can be determined that, apart from the spottily occupied gold regions in the north and apart from the Bureya and Tyrma valleys which are now filling up with people in a limited area, the other regions are as good as

361 uninhabited except for in the southern part. Heavier settlement in terms of area covered can be found only in the southern part of the highland, where a contiguous belt of settlements meets us both along the Amur River. While the belt of settlements along the Amur River is certainly purely agricultural, industrial activity is to be encountered along the railroad in the area of the Bureya Mountain Range. In Bira 316 hard coal is mined /253/, iron ore lies west of Bira in Kimkan, and farther on in the vicinity of the railroad there are known to be supplies of magnesite, manganese, and fluorspar. Gold is also there and is extracted from the gold streams of the Sutar valley. This sourthern part of the Bureya Highland belongs to the Jewish Autonomous Oblast. It will be discussed in context in the following chapter.

/Sketch Map of the Jewish Autonomous Oblast/

The Amur Plain

B3 This region extends from the eastern slopes of the Bureya Mountain Range to the shore of the lower Amur, and it forms a vast lowland covered with meadow steppe. This lowland is scarely inferior to the Zeya-Bureya plain in the luxuriant growth of grass. The mean height of the plain is 45 meters. On the eastern side of the Bureya Mountain Range there run parallel to this range some mountain ridges, which go beyond the 1,000 meter mark only in the rarest of cases, such as in the Badzhal'skiy Mountain Range.

The Amur plain is regarded as a continuation of the Ussuri-Khanka depression and represents a graben zone, which is set between the Bureya Mountain Range on the west and the Sikhote-Alin' on the east.

The plain itself is divided into the flood area, which can be from a few kilometers up to 20 kilometers wide, and the real plain, which begins with a step. Only the edge of the plain is cut up by the rivers; otherwise the plain is for the most part completely flat and toward the mountains goes gradually over into a hilly landscape. The country on the right bank of the Amur below the mouth of the Ussuri is more varied in form /254/ because of the spurs of the Sikhote-Alin'. This area is generally higher, and its landscape is gently rolling to hilly.

Even though the external picture of this area recalls that of the Zeya-Bureya plain, the Amur plain, nevertheless, differs because of its greater swampiness, which goes back in the first place to the damper

kilometers, and its population numbers /255/ 108,400 (1939), of which approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000 inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking installation has been added to the older oil refinery in order to process the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary, on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has re- [161] ceived its name. By 1939 it already numbered 70,000 inhabitants, [34] and today its population is estimated to be more than 150,000. The city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [37] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire area around the lower Amur. Already several years ago the city was 361 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

other hand, an elevation still appears to hold sway at present. Many rivers emptying into the sea show delta formations. 133

As a consequence of the southern current running along the coast, numerous narrow tongues of land separating small bays from the sea have formed. All these tongues of land point toward the south. The deltas mostly lie left of the river courses, which, therefore, show a wandering to the right and which also dig under the shore on the right side. The sea current is weaker and irregular on the southern coast, which is heavily broken up; thus tongues of land here can run in all directions.

The most important bay on the east coast is Ol'ga Bay. It was discovered in 1787 by La Perouse and forms one of the best natural harbors on the coast. Lying off the bay are the small, rocky Chikhachev Islands. The bay itself has a diameter of 3 kilometers and is on the mean 25 meters deep. Once it was at least three times as large and reached much more deeply into the land toward the west. Today the valley areas of the rivers emptying into the bay become swampy. When there is a strong east wind, a backward flow can even be determined. The old marine abrasion terraces are very well preserved on the mountains at a height of 25, 30, and 120 meters. The low mountains surrounding the bay consist of granite, quartz porphyry, and sedimentary rock and contain above all iron /264/ in addition to lead [135] ore containing copper and silver. This iron is magnetite with an iron content of 50 percent; the iron is being mined here. The harbor locality of Ol'ga has several thousand inhabitants. In the hinterland of the bay [261]. Russian peasant settlers have made their appearance.

The Tetyuke Bay has a greater economic importance. Here, 316 35 kilometers from the coast, is the most important zinc-lead-silver 504 ore in the Far East. A narrow-gauge railroad connects the mining installations and the preparatory installations with the harbor, which has gotten modern loading equipment very recently. The harbor locality has several thousand inhabitants. Here, too, there are agricultural settlements in the hinterland.

Between the two above-mentioned bays is a third bay, the 133 Vladimir Bay. It is surrounded on all sides by granite mountains which are up to 225 meters high. The bay has a depth of up to 12 meters. Fresh water lakes and swamps enable us to recognize the former larger expanse of the bay. Two projecting rocky peninsulas enclose the bay. Vladimir is known for its installations for the extraction of iodine from seaweed.

133 Of the more favorable bays on the northern part of the Sikhote-
361 Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has de-
[504] veloped quickly into a city with more than 20,000 inhabitants. It has
[396] also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

361 For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and
[505] now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

133 The real, vast mountain massif of the Sikhote-Alin' is very
361 sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Isiubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

137 Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

regions, the Sikhote-Alin' can still, as always, be designated as rich in forests. Planned exploitation of these forests has still not been begun at all. Of still greater significance for the future are the vastly rich resources of the ground. The southeastern part of the Sikhote-Alin' appears to be a true mine for the latter. However, a large part of these supplies has still not been once sufficiently investigated. The prospects for development along mining and industrial lines are always completely favorable, only an opening up in terms of transportation must pave the paths to the sources.

The extreme southern part of the Sikhote-Alin' is generally relatively thickly populated, and it is also better opened up from Vladivostok on. It already belongs more to the cultivated zone, and economically, too, it is so closely connected with the cultivated zone that it will be treated in connection with the Ussuri-Khanka depression.

The Ussuri-Khanka Depression

The western foot of the Sikhote-Alin' is, for its entire length, accompanied by an extensive depression, which stretches from the Gulf of Peter the Great to the mouth of the Amur, thus covering more than 1,300 kilometers. The Ussuri-Khanka depression forms the larger, southern part of this long depression and has a total length of 700 kilometers from the southern end to the mouth of the Ussuri. As compared with the Sikhote-Alin', this depression represents the sunken part of the land step and is accompanied on the west by the step, again elevated, of the east Manchurian mountain range. In the Tertiary period, the entire depression, as Ivanov (83) assumes, was flooded by the sea, and

83. Ivanov, D.V. The Sikhote-Alin' Ridge /in Russian/. Petersurg, 1896.

thus the Sikhote-Alin' projected from the sea as a long, narrow island. Proof of this view has been attained up to now only for the southern part of the depression.

The bulk of the depression belongs to the drainage area of the Ussuri. A flat watershed, which is scarcely perceptible in the countryside and which has an absolute height of only 190 meters above sea level, separates this section of the depression from that section of the depression whose waters drain off toward the south, i.e., the river

the river. However, in contrast to the western side, the eastern side is narrow, and only somewhat wider at the mouths of the tributaries. On the other hand, the depression is also completely lacking in places, i.e., where the spurs of the Sikhote-Alin' go right down to the river. However, not only do these spurs interrupt the depressions, but they also often interrupt the hills and ridges which emerge from the flat alluvial plain and which are drier and as a rule have cultivated fields, villages, and forests. Therefore, there are only a few settlements along the river in the areas threatened by water. The real cultivated zone, which begins in the north already at Khabarovsk, always extends, for this reason, at some distance from the river bank along the country lying higher. The Ussuri Railroad also follows the higher land. Here the forest landscape and the forest steppe landscape have been cleared over an area 100 kilometers wide and have had to make way for the cultivated land, which extends in a considerable width especially in the regions around the lower courses of the Khor, Bikin, and Iman. The most important localities in these three depressions are Kondratyevka on the Khor, Bikin, and Iman, all three of which lie at the point where the above-mentioned rivers are crossed by the railroad. In the south the Ussuri depression flows together with the agriculturally important Khanka depression.

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Khanka Lake lies 69 meters high and is 23,000 square kilometers in area, with its greatest length being 80 kilometers and its width being 40 to 85 kilometers. A narrow, sandy tongue of land in the north separates it from the so-called Little Khanka Lake. /267/ /Sketch Map//268/ South of this tongue of land the border crosses the lake, giving approximately a fourth of the lake to Manchuria. In the east the Sungacha forms the border. Khanka Lake is generally extremely flat, its greatest depth being 10 meters. It is surrounded by vast swamps and moors covered with reeds, and it is very much in the process of being filled up with sand. The western shores are formed from Tertiary loam and are, therefore, hilly and irregularly formed with numerous bays and peninsulas. Here to the west of the lake lie the regions, which, of all the areas near the lake, are most favorable for agriculture. The flat moors and swamps which otherwise surround the lake extend to the north for 10 kilometers, and toward the east and south they even extend 30 kilometers from the lake, thus indicating the one-time size and position of the lake. Where the swamps surrounding the lake are becoming somewhat drier, they are turning into meadows with high grass, thus giving a similar appearance to that of the Amur prairies of the Zeya and Bureya.

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the Zeya and Bureya. Also the soil both in the Ussuri depression and also in the Khanka lowland is similar to that of the Amur prairies. Here, too, it is not black earth, as is still often reported; rather there is in the main muddy moor soil in the vicinity of the lake; this in turn is surrounded by a broad zone of semi-marshy meadow soil, and following then is weak podsol earth. The last two zones are cultivated almost everywhere, and the soil there can in every respect compare with black earth in terms of its yield. The zone of settlements, therefore, begins to the east and southeast of Khanka Lake but at some distance from the lake. If here, as in the Ussuri region, agriculture has to struggle with difficulties, the reason for this does not lie in the soil but rather in the climatic conditions, above all in the heavy summer rainfall. The winter is very cold and brings only a very thin covering of snow, and thus the ground freezes to great depths. Berg (27) states that at Voroshilov the ground freezes to a depth of up

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27. Berg, L. S., Landshaftno-geograficheskie Zony SSSR /The Landscape-Geographical Zones of the USSR/, (Moscow, 1931), Part I, 1. 372.

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to 1.8 meters and at Grodekovo the frost even penetrates to depths of up to 2.4 meters. The planting of winter grain is, therefore, not advisable, nor is the planting of clover and lucerne advisable. The cultivation of winter crops is, therefore, always a risk. Further toward the south, in the Suyfun depression, winter rye is cultivated without danger. As a consequence of the deep penetration of the frost, the ground thaws out only late in the year. There is, however, no permafrost in the entire Ussuri region. The planting of summer wheat begins in mid-April to May, and the harvest begins in mid-August. Oats are sowed two weeks later, but are harvested at the same time as the wheat. The sowing of millet is done still later; the harvest, however, occurs only in the middle of September. The shortness of the time between the sowing and the maturity indicates the generally favorable conditions for the flourishing of the vegetation. The European types of grain suffer now under the dryness and under the strong winds during the sowing period, while during the summer they suffer from the great dampness, which makes fructification in the blooming period uncertain when it rains and which also endangers the maturing at harvest. All the better do the native cultivated plants /269/ flourish. With appropriate methods of cultivation European

The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

361 low ridges of the Sikhote-Alin' and enters the Muravyev-Amurskiy Peninsula and finally reaches Vladivostok, the main town and the most important harbor of the Soviet Union on the Pacific.

Vladivostok was founded in 1860. In 1872 the base of the Russian Pacific naval fleet was transferred here from Nikolayevsk on the Amur, and since then Vladivostok has been the center of the military power of the land on the Pacific. Economically, however, the city developed only slowly. In 1882 only 5,000 persons lived in the city. At the same time somewhat regular shipping between Vladivostok and the Black Sea harbors of Russia was taken up. However, the city's rise to become the economic center of the land began only after the construction of the Ussuri and Manchurian Railroad. [504] Through this railroad Vladivostok first became an important Pacific harbor, especially in transit shipping, and in this it is a harbor for all of northern Manchuria. The more recent development of the city into an industrial city has also kept pace with its development into an important harbor. [161] In 1897 the city had a population of 21,000 persons; in 1914 it was 59,000; in 1926 it was 107,980; and in 1939 it was 206,400. At present it is more than 300,000.

361 133 504 The city lies on the well protected and deep bay of the "Golden Horn" at the southern end of the Muravyev Peninsula opposite the large Russkiy Island, which is richly divided up. The peninsula and the island are separated by the "Eastern Bosporus," which extends from the Amur Bay in the west to the Ussuri Bay toward the east. The harbor is unique and one of the best natural harbors in the world, as the designations already indicate. The "Golden Horn" penetrates from the south into the Murayev Peninsula and bends then almost at a right angle toward the east (see map). /273/ /Sketch Map of Vladivostok and the Southern Coast/ 1/ 274/ The north-south section forms the outer bay and is 3 kilometers long; the west-east section constitutes the inner, harbor bay and is 3.2 kilometers long. The width of the "Golden Horn" is 800 to 1,000 meters; the depth in the interior is 10 meters, and at the entrance of the bay it is 28 meters. Mountains surround the bay and protect it from the cold northwest and west winds. Mountains also rise 50 to 100 meters on the Shkota Peninsula, which separates the outer bay from the Amur Bay. Nevertheless, 361 504 the harbor freezes for three to four months every year, and throughout the winter three ice breakers are in uninterrupted service to keep the harbor and the entrance free of ice. The outer bay and the western part of the inner bay above all belong to the commercial harbor, while

1/ [Cf. cat. 116, p. 317 -- Analyst]

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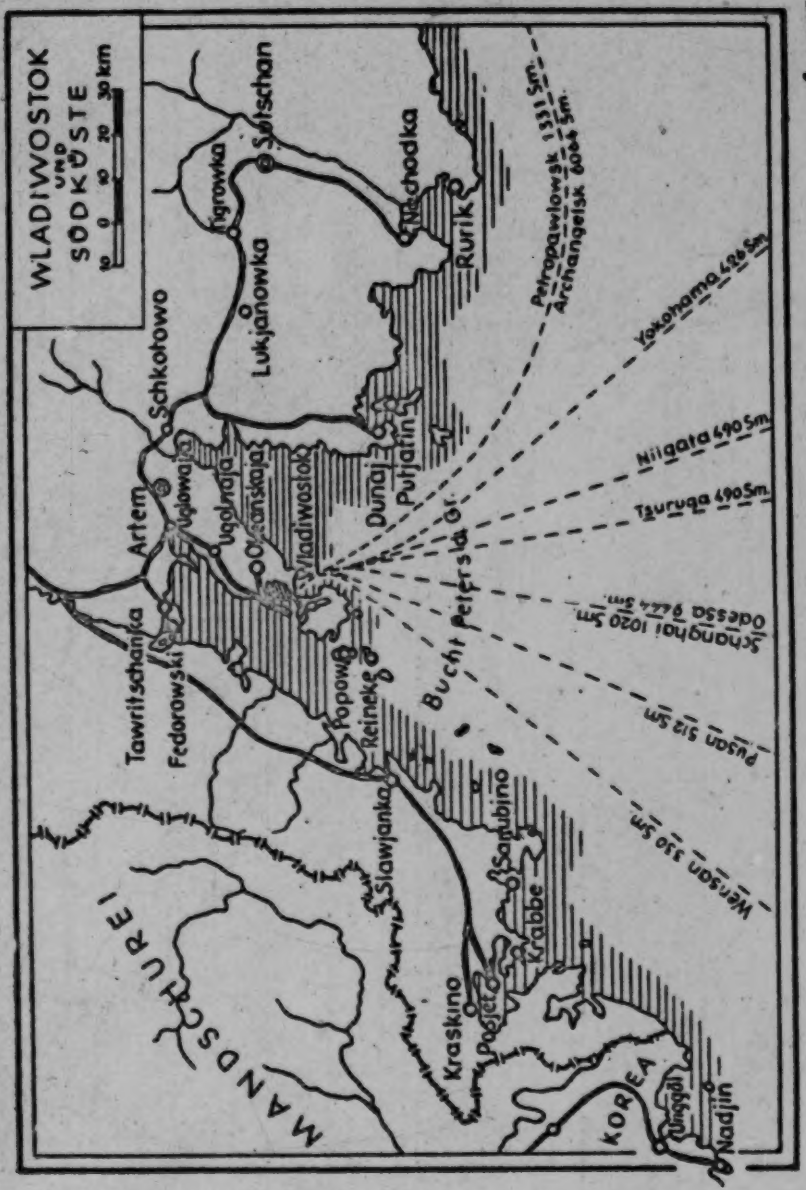


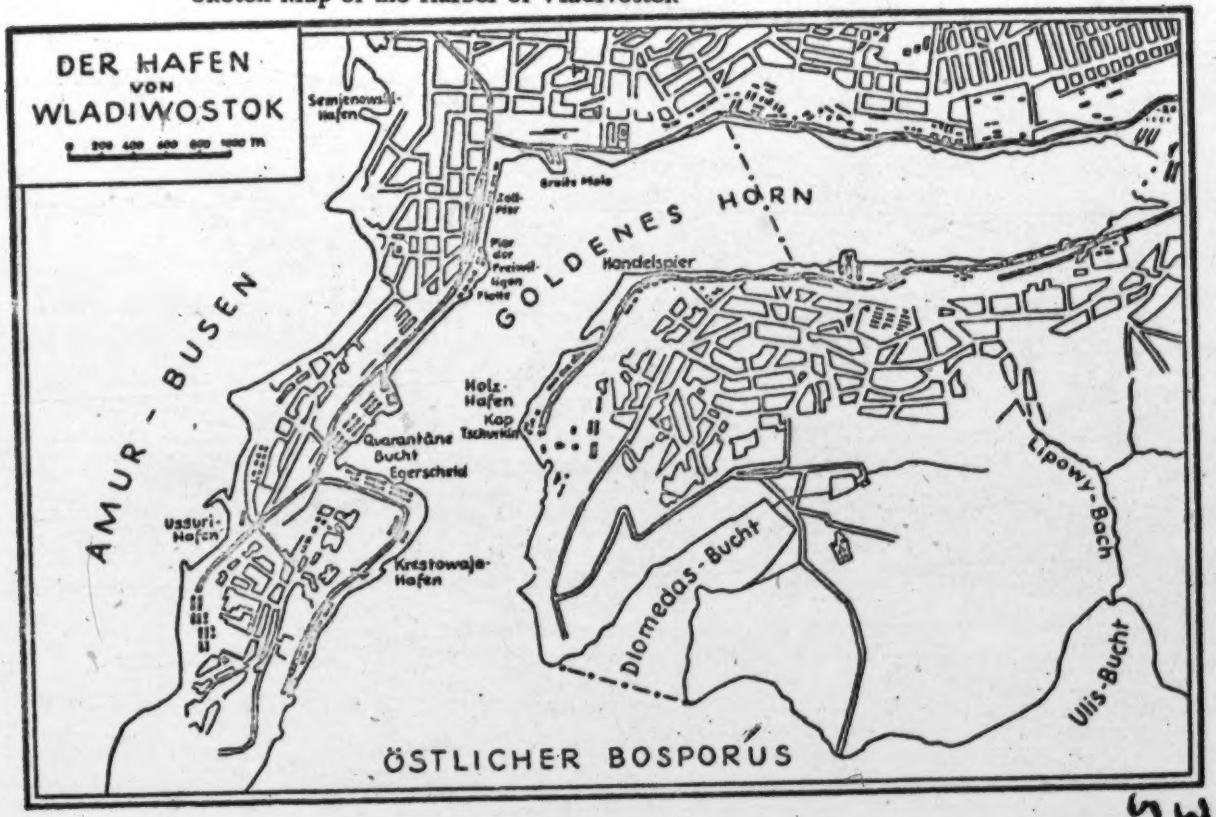
Sketch Map of Vladivostok and the Southern Coast

the section farthest in of the inner bay has been built up as a naval harbor and is closed to commercial ships. Additional harbor installations lie on the "Eastern Bosporus" and on the outer side of the Shkota Peninsula. In detail the harbor houses the following installations: 361 504

1. Krestovaya Harbor: It stretches at the foot of Krestovaya Mountain, which is 94 meters high, and has quays which are 486 meters long. This harbor is used especially in the winter since it is easiest to keep the waters open here.
2. The Egersheld, which is at the same time a quarantine harbor and which has a quay almost 950 meters long. Here the most active life prevails in the summer. This harbor is specially built up for the turnover of grain, and it has the most modern loading equipment and granaries.
3. The Harbor of the "Voluntary Fleet" (Dobrovolnyi Flot). It received its name from the Organization of the "Voluntary Fleet," which was founded in 1870 and which was the first to take up the task of connecting the mother country with the Far East.
4. The Customs Pier and the so-called "Wide Mole," which takes up the northwestern angle of the Golden Horn.
5. The Commercial Pier with the "Wide Pier" (Shirokiy Pir) on the southern side of the bay. This has extensive track installations and the largest storehouses. The quay installations are 1 kilometer long.
6. The Wood Harbor, which lies somewhat farther south on Cape Churkin.
7. The Ussuri Railroad Harbor on the western side of the Shkota Peninsula. This has extensive installations for oil and petroleum.
8. The Semyonovskiy Bazar, which likewise lies on Amur Bay. It serves coastal traffic predominantly.

All the quay installations together have a total length of more than 4 kilometers, and the network of tracks, which span the harbor and all its installations, is 335 kilometers long (1937). From 1933 to 1939 there was a further building up of the harbor, and thus it is in a position to handle an annual turnover of 4 to 5 million tons. In the first period of the development of Vladivostok, the supplying of water caused some difficulties. But these have now been overcome by means of a large water storage installation on the /275/ /Sketch Map of the Harbor of Vladivostok/ /276/ so-called "Second Little River" (Vtoraya Rechka) and by means of the filtering installation, holding 100,000 tons, on the inner edge of Ulis Bay, into which Lipovyy Brook flows. 361 312

Sketch Map of the Harbor of Vladivostok



3: Thiel-319 K-4,5 (no date) 1953 RR1 Siberia RR1

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361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 Vladivostok is not only a harbor city, but it also has developed into an industrial city. In first place here is the fish industry, which, [255] however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [396] Vladivostok has great importance as a naval harbor and a shipyard, [399] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 Apart from this fish industry, which is distributed among 322 numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 162 231 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 162 The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population 433 here is more agricultural. In general, however, the agrarian economy is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

watershed regions, and thus he can still go forward best along the slopes.

The Amgun region is as good as uninhabited. Only on the largest rivers is human life to be encountered here and there: wooden huts of some Gilyak or also of Tungus Olcha and Negidal, who live from fishing and hunting. On the Amgun itself, however, there are already Russian settlers, who have come together into some small localities. The most important is Kerbi which lies at the mouth of the river of the same name. The Amgun can be traveled by small steamers as far as Kerbi. The Amgun brings goods to supply the area here, and the goods are then towed in boats down the Kerbi to the gold regions.

The valley of the Tugur becomes up to 20 kilometers wide and gives the same picture. Here, too, moss moors extend far down the valley. The swampiness is strengthened here still more by the appearance of permafrost.

/286/ The river area of the Uda is very extensive. In the Uda collect waters which come from the Dzhagdy Mountain Range and also from the Dzhugdzhur Ridge. The Uda's left tributary, the Maya, which is more than 300 kilometers long, separates the Stanovoy from the Dzhugdzhur. Here, too, the great swampiness causes the traveler great difficulties. The Uda is a mountain river and flows seethingly in a bed filled with boulders and interrupted with numerous rocky islands. Only in its lower course does the Uda become quiet. Here lies Udskoye, a small Russian village, which is the center of the hunting of fur-bearing animals. This hunting still brings very rich yields in these remote mountain regions.

The Okhotsk Coastal Area

The area includes the entire western and northern coastal region of the Sea of Okhotsk, beginning at the Uda in the south and ending at Penzhina Bay in the north. With the coast being more than 2,000 kilometers long, the conditions, of course, vary in detail, but in general the prevailing character of a raw mountain forest landscape with a damp and cool climate is preserved, which is less tolerable for man than the harsh contrasts of the continental interior.

The region can be divided into two parts according to the structure of the coast and according to its forms: a southwestern part between the Uda and Okhotsk with coast which is little divided up and a northeastern part which is heavily broken up by numerous large and

small bays, peninsulas, and islands. The character of the southwestern part is determined only by a line of mountains stretching parallel to the coast, the Dzhugdzhur; in the northeastern part ridges of mountain ranges are predominant which stretch irregularly toward the line of the coast. 133

In the western part, the Dzhugdzhur coast, the mountain ridges go right down to the sea and leave free for settlement by man a narrow coastal strip, which at most widens somewhat at the mouths of the rivers. The Primorskiy Ridge, which lies in front of the Dzhugzhur chain in the south between the Uda and the Ayan, even declines directly and steeply into the sea. The Dzhugdzhur, which stretches parallel to the coast and consists of several ridges, forms a contiguous mountain wall with its masses formed predominantly of granite, gneiss, and porphyry. This mountain wall shuts off the coast from the interior. The mean height exceeds 1,000 meters, and the few unprotected passes also lie almost as high. The watershed runs in the vicinity of the coast, and thus along the entire coast only short rivers, which, however, seethe because of the steep slope, flow down into the sea. Therefore, the deeply etched valleys opening on the sea stand in sharp contrast to the more horizontal lines of the round peaked surface of the massif of the mountain range. The valleys are filled with thick /287/ taiga, teeming with underwood, and, with the narrow bottom of the valley saturated with boulders and scree, these valleys offer man only a very difficult opportunity to penetrate into the mountain range; and yet these sharply etched and steeply rising valleys are the sole routes which lead from the coast into the interior of the land. Thus the fact that the coastal strip is cut off from the hinterland is a special mark of this region. The ridge is more thickly forested only on the slopes, while the heights themselves have only a spotty, crippled growth of trees or lie completely bare in the highest places. The passes, too, mostly lie above the tree line and are scarcely usable in winter as a consequence of violent snowstorms.

The interior of the mountain ridge is as good as uninhabited. 361 • 505 Apart from hunters, only a few Tungus with small reindeer herds cross the desolate mountain areas. On the coast there are a series of Russian fishing settlements. The principal locality here is Ayan. It lies on a favorable natural bay, which is approximately 1 kilometer both long and wide and 6 to 38 meters deep. Since the entire Dzhugdzhur coast is blocked by ice in the winter, the harbor can be used only in summer, although constant violent sea winds often hamper the departure of sea

361 ships and indeed in many instances make departure impossible. From
505 Ayan a route starts toward Yakutsk. This route rises steeply over the mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

361 In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an
563 important fish collection point. On the coast and also in the hinterland
241 of the depression, numerous Russians have settled. In addition to an
231 agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

133 Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same [505] names. During the summer, connection between these localities is [487] maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities are Orotukan and Khatynakh. For connection with the outside world 491 a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

same time created the shortest connection with the entire Kolyma region. The highway is more than 1,000 kilometers long and was built under the most difficult of conditions (mountain ranges, permafrost). Bases connected with small agricultural economies /290/ facilitates the use of the road. The harbor of Magadan lies on Nagayevo Bay. Steep rocks are artificially heaped up at the foot of the landing places for sea-going ships. Ice breakers are employed in the harbor to make it possible to use the harbor for a longer period. The rapidly growing city, which in 1939 already had more than 10,000 inhabitants and today is estimated to have 50,000 inhabitants, lies somewhat at a distance from the harbor and is separated from it by a flat, rocky hill. The construction of the city was done with the most modern means. They have even succeeded in building stable six-story skyscrapers, despite the permafrost, by using deep excavations and by laying in insulating layers.

The Provinces of the Extreme Northeast

These regions are bordered on the west by the Kolyma Mountain Range, and they are divided into the Chukchi Peninsula, the Anadyr' and Penzhina region, and the Koryak Mountain Range. Of these areas only the strip along the coast is better known; the vast interior, on the other hand, is mostly still insufficiently explored.

The Chukchi Peninsula is cut off from the Asiatic contintent on the one side by Chaun Bay on the Arctic Ocean and on the other side by Anadyr' Bay on the Bering Sea. The southern border is formed by the Anadyr' Mountain Range, which represents the watershed between the Arctic Ocean rivers and the Anadyr', and which is more than 1,000 meters high. The region north of the Anadyr' Mountain Range is also filled with lines of mountain ranges almost as far as the coast of the Arctic Ocean. These mountain ranges stretch in a direction from west to east. Further toward the east the contiguous, broad mountain landscape is lost, and the mountain ranges form themselves into two ridges which lie under 800 meters and which, broken through several times by rivers, reach the east coast with the northern mountain range going in the direction of Cape Dezhnev. The cape itself, which lies 77 kilometers from the mainland of Alaska, consists of a single, massive mountain which is 770 meters high and which is formed from limestone. This mountain is completely isolated and is connected with the mainland only by a low, narrow tongue of land, which is

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated. 361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

almost never penetrates into the land, however.

The area occupied by settlements is very slight in the east and in the center of the depression. In the west, on the other hand, there are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives.

There are only a few settlements on the coast because of its flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region and is regularly visited by coastal steamers. A short while ago rather large Eocene brown coal fields were found in the vicinity of the locality. The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/ and supplies the coastal steamers. In addition, Anadyr' is the central station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory.

Toward the southwest the Anadyr' depression goes over into the Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which

133 flows into the Sea of Okhotsk. In comparison with the Anadyr' region the climate here in the Penzhina lowland is somewhat milder. The [137] inclination of the ground is greater, and thus the moss steppes widely diffused here are not so very swampy: the larger rivers are accompanied by poplar forests almost everywhere. Toward the mountains there is the same alternation in the vegetation picture as there. At the mouth of the Penzhina lies Kamenskoye, where the coastal steamers land. 361 563 The capital, Penzhina, itself is a small village lying in the middle of a lonely moss steppe in the interior of the region. Koryak constitute the majority of the small population. They are in part sedentary, living as fishermen in the villages, or they wander as nomads with their reindeer herds on the good grazing grounds of the moss steppes. 135 In the Tertiary layers, which fill the Penzhina basin, coal-bearing series have recently been found, which also contain lighter lignite in addition to brown coal of good quality. The deposits are said to stretch almost over the entire Penzhina basin.

133 On the east the Penzhina lowland is bordered by a flat mountain ridge, the Penzhina Mountain Range. The very long moss steppe, the Parapolskiy-Dol, whose character is like that of the Penzhina lowland, stretches on the other side of the Penzhina Mountain Range from southwest to northeast. In the south this moss steppe widens and traverses the entire land narrows which connects Kamchatka with the mainland. Here in the middle of the land narrows the moss steppe reaches a height of 155 meters.

The region between the mouth of the Anadyr' in the north and the land narrows in the south is taken up by a still little known central mountain range, which is usually designated the Koryak Mountain Range, after its principal population. This mountain range fills the entire area as far as the east coast, and its waters in the main empty into the Bering Sea. Traversing the land which is mostly formed like a high plateau are three lines of mountain ranges: the Pal-Mal, the Tingeney, and the Rarytkin Ridge. Like the entire Koryak Mountain Range generally, these three belong to the outer zone of the Tertiary faulting belt and are regarded as a continuation of the Kamchatka Mountain Range. In contrast to the interior which is like a high plateau with a general height of 500 meters, the rivers flowing toward the coast are deeply dug in, and thus from the sea an impression more like a mountain range arises. The bulk of the surface is covered with tundra, only the more protected places and valleys have forests. Reindeer-breeding Koryak inhabit the interior and also constitute the population of the /295/ fishing settlements on the coast.

population of the /295/ fishing settlements on the coast. The center of the fishing and the processing of fish is Ust'-Apuka, west of Cape Olyutorskiy. 361 563

Tertiary brown coal deposits have also been found in the Koryak Mountain Range in Korff Bay in the south and in the Ugol'naya Bay in the extreme northeast. In Korff Bay the deposits have already been mined for years, and the coal from here is used to supply coastal shipping. The coal here is of Miocene age and is contained, as far as the supplies have been investigated to date, in 11 seams with a total thickness of 20 meters. In this the quality of the upper seams is very different from that of the lower seams. The uppermost seam represents typical lignite; the lower seams, on the other hand, are like a gleaming, bituminous coal. Mining is supposed to have been taken up in Ugol'naya Bay also, and a coal base is likewise supposed to have been erected. 135

Kamchatka Peninsula

Like a spearhead Kamchatka Peninsula projects toward the south, separating the Bering Sea from the Sea of Okhotsk. The peninsula covers 270,000 square kilometers and has a length of 1,200 kilometers, which corresponds approximately to the distance from Berlin to Rome. 133

South of the Parapolskiy Dol plateau which stretches across the land narrows, the first lines of heights begin, and these then develop into two mountain chains as the peninsula widens. Between these two chains, the western and the eastern, is imbedded the valley of the Kamchatka River.

The low medium mountain range of the west increases considerably in height south of the Palana River. In the area of the Tigil' River the main chain is richly divided up, is accompanied by parallel chains, and reaches already a height of 1,650 meters. In the area around the source of the Bystraya and the Icha rises the truncated volcano cone of the Ichinskaya Sopka, which projects over its approximately 1,200 meter high ground area to the gigantic height of 3,607 meters. The mighty dome of the mountains is covered with glaciers, from which some hanging glaciers flow down. The water from the melting of these hanging glaciers has torn deep furrows. The Ichinskaya Sopka is the sole active volcano in the western half of Kamchatka; thick smoke rises constantly from its crater. South of the Icha the character of the mountain range changes basically. North of the Icha,

133 Tertiary sandstone and eruptive elements predominate; but to the south, on the other hand, slate, granite, syenite, and porphyry appear predominantly, forming more massive ridges and round peaks. Gradually the height is lowered, and the western mountain range flows together with the eastern line of mountains to stretch then in a line to the southern tip of Kamchatka. The western mountain spurs and parallel chains have numerous old volcano cones, which often rise far beyond the vegetation line. The slender, basalt pointed cones of the Eleuken and the Moreshatnaya Sopka should be mentioned here above all.

/296/ From the sea there rises slowly a treeless moss steppe, which is often designated also as tundra. It rises to a height of 200 meters and then rises rapidly in mountainous forms to a height of 600 meters, whereupon the mountain range zone follows. Only in the extreme north, where the Penzhina Mountain Range stretches to the sea, is the west coast itself steep and also often rocky. For the entire remaining course of the coast, it is flat and represents a leveling coast /Ausgleichsküste/ with numerous narrow bays and coastal lakes. • [34] Many settlements, however mostly only small ones, lie in the damp coastal plain, which is in part also swampy. These settlements lie almost always on the lower courses of the rivers at a distance of 10 to 20 kilometers from the mouth, approximately at the border where the forest along the valleys from the mountain range runs into the moss steppe.

The eastern half of Kamchatka likewise forms a medium mountain range, but it has numerous high volcano mountains, whose thick andesite masses traverse the greater part of the land from the middle Yelovka in the north to the southern tip of the peninsula. The number of volcanos, of which 18 are still active, is far greater than in the western chain. The volcanos here lie mostly between the main ridge and the coast. Of the active volcanos, the following are the most important: The Shiveluch (3,335 meters) lies in the angle between the Yelovka and the lower Kamchatka. Its peak has six glaciers. The last eruption occurred in 1928. The Klyuchevskaya Sopka, which is likewise glaciated, rises to a height of 4,775 meters south of the point where the Kamchatka River breaks through the eastern mountain range. The Klyuchevskaya Sopka is the highest point on the peninsula. The volcano cone, which projects to its mighty height directly from the plain of the Kamchatka River with a slope inclination of 30°, is among the most impressive volcanos on the earth. Its last eruption

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

world. The crabs are extraordinarily large and attain lengths of half 228
a meter and more. They are drawn up from the bottom of the sea in
drag nets in which they get entangled. Worthy of mention in this [255]
connection are the floating crab canning factories, which are used on
the west coast and which carry out on board all the work from catching
to canning.

The capital of the peninsula is Petropavlovsk. The city lies 361 •
on Avacha Bay, which freezes over only exceptionally. The bay is
surrounded in a semi-circle by the panorama of high volcanos. The [504]
city's favorable natural harbor, which a short while ago got a ship-
yard with a dock for ships of up to 5,000 gross registered tons, gains
more and more in importance since the ships of the Northern Sea Route
spend the winter here before they start out on their trip to the north.
This applies especially to ships which regularly travel to the Kolyma
River in order to ensure supplies of heavy materials to the gold regions
on the upper course of the Kolyma. Petropavlovsk is the center of the
hunting of sea animals and of the industries connected with this. In
addition, the city also has fish processing installations, a brickyard, [258]
saw mills, and a can factory, which is of especial importance since
it supplies the necessary material to all the smaller fish processing
localities. In the treeless delta of the Kamchatka River lies Ust'-
Kamchatsk, the next most important locality on the peninsula. More
than 2,000 workers /302/ work in the canning factories there in the
summer. The locality, in addition, has a special importance as the
gateway to the interior of the peninsula, which can be reached easily
only through the Kamchatka valley, while the other approaches have
to overcome difficult passes. In increasing measure also wood is [313]
floated down the Kamchatka River to the coast, where it is processed
in and sent on from Ust'-Kamchatka. In the broad longitudinal valley
of the Kamchatka there are a series of villages, among which Verkhne
Kamchatsk and Mil'kovo should be mentioned. In this area removed [231]
from the coast, horses are kept, since supplying fish food for dogs
causes difficulties. At the inner entrance to the cross valley, at the
foot of the largest volcano cone, lies the village of Klyuchi, from
which the volcano receives its name. Here the traffic lines from the
interior merge and make the locality into a central trading place,
especially for fur goods. In addition to Russians and Koryak, some
Chinese and Koreans have also settled here. Klyuchi has a scientific [654]
observatory for the study and special observation of the Klyuchevskaya
Sopka. Below the village the Kamchatka widens into a sea decorated
with islands.

with islands.

361 228 The main locality on the west coast is Bol'sheretsk. It is the center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

are known regarding the total prisoner population, one thing is certain and that is that the entire Magadan enterprise is on a very large scale and that prisoners form the greatest majority of workers. Due to the fact that three known prisoner ships which were operating in 1940, the "Felix Dzherzhinskiy," "Uritsky," and "Dzhurma," are still plying the same Vladivostok-Magadan route, it is a reasonable assumption that the prisoner traffic is continuing. (Note: It is difficult to assume that these ships have changed the nature of their cargo inasmuch as it is definitely known that the holds of these ships were constructed in a special manner to transport large numbers of prisoners; although it is admittedly possible to change the internal structure of these three ships, it is dubious that this has been done, because it is known from reports from Radio Magadan that activities are being expanded throughout the Kolyma economy. Since the death rate has been so high in the past among prisoners, it is difficult to see how further development of the region could be undertaken without importing further number of prisoners every year.)

8) The City of Magadan: One of the results of Berzin's administration was the construction of the city of Magadan; by 1941 the population of this city had been estimated at approximately 70,000, composed of MVD officials and hired specialists who volunteered for service under the Dalstroy administration. It was further estimated that at that time there were some 50,000 such specialists scattered throughout the region. Another section of the population in the Magadan area, numbering a few thousands, was represented by exiles, mostly highly qualified experts whose work in Dalstroy had entitled them to some special privileges, although they are still subject to the MVD. Outside of the city of Magadan there were several big camps for prisoners with fluctuating populations.

The central streets of the city were lined with two- and three story houses. Electricity was provided by a power station which also supplied electricity to the taiga areas by means of wires strung over the surrounding mountain ridges.

The population of Magadan faced a problem in the procurement of foodstuffs. In an effort to relieve this situation, "Magadan has a large experimental farm equipped with hothouses. The latter already (1941) grew 'Kolyma' apples, pears, peaches, and even oranges, not to mention a variety of berries, while all kinds of vegetables are developed in the hotbeds, including cucumbers, cabbage, eggplant, muskmelon, and watermelon."[12] The chief problem in the attempts at agriculture was the geological ice. Repeated deep plowing of the soil, the use of fertilizer in great quantities, and similar measures have been used in scientific experiments and have achieved good results. Thus, in some places the ice formerly came to within one to two feet from the surface of the ground, but it has been pushed down to six or eight feet, which has made possible the cultivation of cereals. (Note: Agriculture in Magadan and the entire Kolyma region will be treated in a subsequent report.)

9) Summation: The entire Kolyma region is growing in importance constantly, and due to the produce obtained from this area, in addition to the increasing population, Magadan and the hinterland cannot be ignored or treated lightly. There are two general aspects of the Kolyma region which should be noted:

1) In the New York Times of 9 January 1946, it was reported that there is total gold supply in Moscow of between the wide range of two and ten billion dollars. The interesting aspect of this surmise is the fact that in 1925 or even in 1930 the Soviet government was forced to sell the treasures of Russian museums in order to pay for machinery that it had purchased abroad. Soviet gold has made its appearance only

[12] Dallin, op. cit., p. 133.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

ment. They tried to get rid of these credentials as quickly as possible, because they were believed to be bearers of the evil spirit. The resigning chairmen suggested that the local Shamans should be appointed in their place, as they would be more successful in dealing with the spirits. The Party secretary refused to comply with this request, and, after a great deal of arguing, most of the chairmen agreed to retain their credentials, and to resume their jobs.[25] In the novel, *Where the Sukpai river flows*, by Kimonko, which deals with the life of the Udege people, the Shaman is both anti-Soviet and anti-Russian. He expresses his political philosophy in the following words:—'It is better to be doomed than to go to the Russians. The Russians will make soldiers out of us and destroy us to a man. . . The Russians and the Udege are different people. The man of the forest has laws of his own. One must abide by these laws.'[26]

The Shamans preserved their influence throughout the 'twenties' and early 'thirties'. They played an important part in the resistance movement against collectivization. In fact, the terms 'Shaman' and 'kulak' became interchangeable in the official Soviet vocabulary. But this is the usual simplification with which communist anti-religious propaganda operates. An official Soviet analysis referring to the social origin of 300 Shamans showed that between 50 and 60 of them came from poor families (bednota) and only 5 to 10 per cent were 'kulak elements'. More discriminating Soviet writers have stated therefore that Shamans whilst belonging to various social groups constituted 'a reactionary counter-revolutionary force taking sides with native kulaks and semi-feudal elements'.[27]

In addition to collectivization the Shamans obstructed practically every measure taken by the Government in the economic, cultural and sanitary fields. The target figures of the economic plans could not be fulfilled because the Shamans dissuaded the natives from fishing and hunting on certain days or from killing certain animals, for instance walrus. Soviet newspapers and journals were boycotted because the Shamans agitated against their dissemination. Also the new schools in the Far North and the 'kultbazy'* suffered from the sabotage of the Shamans. The latter persecuted and threatened the lives of Soviet teachers, particularly those of Russian nationality.[28] They hindered the re-education of the northern tribes to a more healthy and hygienic life, and intimidated people to such an extent that they did not dare even to go near a Soviet medical station.[29]

Although there is likely to be substance in most of these charges, they

* The 'kultbazy' or 'Cultural Stations' are political, cultural, and scientific research centres which the Soviet régime organized in the Far North. 'Cultural Stations' usually include a boarding school, a kindergarten, crèches, a hospital, a first-aid post, a veterinary station, a metereological station and even a museum. Most 'Cultural Stations' later developed into townships. Out of the fifteen 'Cultural Stations' three were founded in the Far East, one for the Koryaks, one for the Lamuts and the third for Chukchi and Eskimos.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[25] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[26] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[27] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

Power Economy

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Available as sources of energy are above all the known energy materials such as coal, oil, peat, and wood, and, in second rank, water power. Coal has a prominent position in terms of its share in the present production of energy. Oil claims second place. Peat and wood play a very decisive role only in certain places, while a beginning has been made only in the last few years in the exploitation of water power. More exact figures on the economic contribution of the various sources of energy cannot be made since no publications are available on this subject. This applies also to the production of electrical energy, which is to be treated next, and about which only a generalized picture also can be drawn.

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In its numerous coal deposits, which are scattered widely over the land, Transbaykal has the best conditions for supplying itself regionally both for industrial purposes and also for the production of electrical energy. Here, too, the first modern beginnings were made in moving the production of electrical energy into the coal areas themselves and transporting the current instead of the coal to the centers of consumption. The steam power plant of Tomcha must be named here in first place: it is based on the coal of Lake Gusinoye and was built a few years ago in the vicinity of the railroad line from Ulan-Ude to Naushki. It has the task of supplying electricity to the wolfram mines, and it is assumed than an overland line leads into the regions of the upper Dzhida. The coal deposits of Kholbon also have an older power station (around 10,000 kilowatts), which also supplies both the city of Nerchinsk (over 25 kilometers away) and the gold works of Darasun (60 kilometers away) and of Baley (50 kilometers away). Power stations have also been erected in the coal deposits of Bukachacha (around 9,000 kilowatts) and of Kharamangutsk (around 3,000 kilowatts); these power stations, however, only serve the mining installations on the spot. All the larger cities and also the more important localities on the railroad line have their own heat power stations; coal must be hauled to these stations over a more or less long distance. For Ulan-Ude and Chita, which have the largest installations, there is the peculiar picture, arising out of the historical development, that both cities have several power stations where the capacity of the plant-owned power stations, which were built later, exceeds that of the older power stations which supply the cities' needs. In Ulan-Ude, for example, the power station of the locomotive factory (27,000 kilowatts) exceeds the city power station by several fold in

with islands.

361 The main locality on the west coast is Bol'sheretsk. It is the
228 center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

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377 indicated power. Chita has five power stations with a total capacity of around 50,000 kilowatts; these power stations are driven by coal from Chernovskoye. Only the railroad repair shop has built its power station in the coal district itself. Petrovsk-Zabaykal'skiy has its own power stations. While all the above-mentioned power stations use coal as their heating material, the plants lying at a distance /174/ from the railroad line, such as, for example, the non-ferrous metal combinat, employ mixed firing, using peat and wood of local origin. The use of water power has in general still not gotten beyond the stage of research and planning. In 1948 the first water power station was erected on the Kyngorsk waterfall, but this power station is only of a limited size and is destined to supply agriculture only. There are reports from various regions of the erection of this type of small power station of the framework of sovkhoz and kolkhoz.

In the Amur area we find approximately the same picture. All the larger localities have their own power stations. Energy networks do not exist, and accordingly the individual central power stations, apart from Raychikhinsk, have to be supplied with energy materials from outside. Since the coal deposits here are smaller in number and are much farther from one another, the supplying of the stations is more difficult than in Transbaykal. Accordingly, the power stations employing mixed firing constitute the great majority. Here in the Amur country such plants also exist in the localities along the railroad line. In addition to coal, wood and--the farther one goes to the east--oil also are used. Some localities such as, for example, Birobidzhan, even have electrical works which are based only on oil. In general, however, coal predominates, with the greater part of the Amur area dependent on the import of brown coal from Raychikhinsk. In terms of transportation, the localities north of the arc of the Amur are most unfavorably situated, for the next coal area which comes into question as a source of supply, lies more than 700 kilometers away. It is therefore understandable that mining of a new coal field has begun at Magdagacha, which is more favorably located in terms of transportation. The power stations of Svobodnyy (around 5,000 kilowatts) and of Kuybyshevka (3,000 kilowatts) employ mixed firing, while that of Blagoveshchensk (25,000 kilowatts) uses coal. The coal area of Raychikhinsk supplies itself with energy as well as the industrial localities of Zavitaya and Bureya, which are not insignificant, although these two lie only about 40 kilometers from the coal center. Khabarovsk has five power stations, of which the largest, with its more than 10,000 kilowatts of installed power, serves to supply the city. The others are

installations owned by plants (each station has a capacity of approxi- 377
mately 4,000 kilowatts). An extension of the power installations gives the prospect of raising the total capacity of Khabarovsk to 50,000 kilowatts. The most important power station in the Amur area (45,000 kilowatts) is in Komsomol'sk. Another power station is under construction there. Nikolayevsk on the Amur also has a very important power station which supplies the industrial installations in the environs, too. The use of the water energy so abundant in the Amur area is still in the beginning stages. A larger water-power station is supposed to have been built between Khabarovsk and Komsomol'sk in the years after 1947; this station was to serve as supplement for these two cities. However, nothing is known of the station's location or /175/ output. Water power is used more extensively in the building of small, country power stations within the framework of kolkhoz and sovkhoz or groups of these. In 1950, for example, a larger power station was built to supply four kolkhoz. While in 1950 the state of electrification in the Amur area was still designated as insufficient, it appears that since then special efforts have devoted to this task. In 1952 ten of the thirty kolkhoz in the lower Amur area already had their own power stations, while power stations were under construction in the remaining twenty. Similar success stories come also from the rest of the Amur region. The strength of these agricultural power stations is mostly very slight and, as a general average for the Soviet Union, lies between 26.0 kilowatts and 55.6 kilowatts. The fishing kolkhoz also have their own small power stations. Thus six additional power stations were built on the coast of the Sea of Okhotsk in 1949, three were built in 1950, and four in 1951.

Petropavlovsk, the capital of Kamchatka, has a power station (12,000 kilowatts), which uses coal and oil. As in the other areas, electrification of agriculture here too is done by small power station. In 1952 the supply of current to ten kolkhoz was assured by newly constructed installations.

A large heat power station is available on the spot to supply the harbor and the industry of Magadan, and an additional power station in Seymchan supplies the gold mining district on the upper Kolyma.

The southern part of the Maritime Krai around Vladivostok is the furthest advanced in its electrification by reason of the coal districts lying close to one another. Accordingly even the railroad lines are electrified. The most important power station (50,000 kilowatts) lies in the brown coal region of Artem in the vicinity of the Ugol'naya

377 station and, in addition to supplying the railroad, it also supplies additional power to Vladivostok. Vladivostok itself has two power stations (12,000 and 13,000 kilowatts). In addition the dockyard has its own installation (around 6,000 kilowatts). The coal district of Suchan is equipped with a power station of its own (6,000 kilowatts), which also supplies current to the surrounding industries. While all the above-mentioned plants rest on coal firing, the claim that the power stations in Voroshilov (two with 6,000 and 5,000 kilowatts) and in Spassk (9,000 kilowatts) employ oil firing appears somewhat unexpected. All the larger localities along the Ussuri Railroad, which contain wood industries predominantly, have their own power installations with mixed firing; for this, next to coal, wood scraps are used primarily. Agricultural power stations are also numerous in the Maritime Krai. By 1950 there were already more than 100, although the supply of current for the countryside was designated as insufficient.

The following have power stations on the coast of the Sea of Japan: the harbor of Tetyukhe (around 3,000 kilowatts) and Ol'ga Bay (6,000 kilowatts). /176/ Sovyetskaya Gavan' has received a new important installation (25,000 kilowatts) to supply the wood and shipbuilding industries there.

On Sakhalin Island there is a power station in the oil region of Okha (24,000 kilowatts) and a coal power station in Aleksandrovsk (approximately 10,000 kilowatts). In the part of the island which formerly was Japanese almost all the coal mining districts have their own central power stations, which, however, have only a small capacity which is used for local needs.

If one surveys the state of development in the supplying of energy in the whole Far Eastern region, one is struck generally by the spotty distribution of power plants of all sizes. They were erected everywhere where energy was needed, with the question of transporting the energy material mostly playing only a subordinate role. As a result of this selection of locations there is a heavy burden on the means of transportation, which have to provide for bringing in the materials. The great step to converting energy minerals, especially coal, into electrical energy at the spot where the mineral is deposited and then transporting the electricity itself has still not been made. To be sure, a restraining factor toward taking this step is the great distances, but these distances in individual cases are not so significant that they could not be overcome by a power network. Also striking is the slight use that has been made of water power in large installations, although the

Soviet Union can rely on rich experience in the execution of projects of this type. Sufficient preparations in this direction have been made, as is summarized in the Atlas of Sources of Energy in the USSR, and from these preparations it can be seen what significant sources of energy, precisely in water power, still lie unused. The potential energy of water power in the Buryat-Mongol ASSR is estimated to be 7 million kilowatts. Chita Oblast is considered to be less favorable. The other Far Eastern regions are all the more richly equipped: their energy is reckoned to be 31 million kilowatts.

The Processing Industry

Some of the various branches of the processing industry have already been mentioned in the discussion of the raw material concerned. This applies especially to the wood and fish industries, which far exceed all other industrial branches, both in the number of plants and in the number of employees in these plants. From the extraordinary wealth of fish and wood it follows that the Far Eastern regions can not only supply themselves with these products but also that with their surplus they can contribute significantly in increasing measure to the supplying of the other parts of the Soviet Union. Wood, wood products, fish, and fish goods, therefore, form also the principal freighted goods which are sent out of the Far Eastern regions. World War II has had an extraordinary influence /177/ on the development of the other branches of industry. Various plants which had been moved to the Far East remained there after the end of the war; other plants were newly created or switched to another type of production in order to replace the loss in production in the areas affected by the war or also to ensure their own needs. Thus the supply situation today is generally more favorable than before World War II, and after this war it has been further improved by the erection of new installations.

In the selection of the location of the industrial plants the same principle apparently appears again and again. This principle is to so distribute these plants regionally in the vast area of the Far Eastern regions so that long transportation hauls are avoided as much as possible. The goal of this planning is to so equip the various areas with industrial plants so that each region can supply its own principal needs. The best example of this is the city of Magadan, from which the mining districts on the upper Kolyma are supplied and whose harbor is free of ice for scarcely six months. Besides repair installations for ocean-going ships

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has received its name. By 1939 it already numbered 70,000 inhabitants, [161] and today its population is estimated to be more than 150,000. The [376] city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [377] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire 361 area around the lower Amur. Already several years ago the city was 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

kilometers, and its population numbers /255/ 108,400 (1939), of which approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000 inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking installation has been added to the older oil refinery in order to process the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

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361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 Vladivostok is not only a harbor city, but it also has developed [255] into an industrial city. In first place here is the fish industry, which, however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [346] Vladivostok has great importance as a naval harbor and a shipyard, [349] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 Apart from this fish industry, which is distributed among 322 numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

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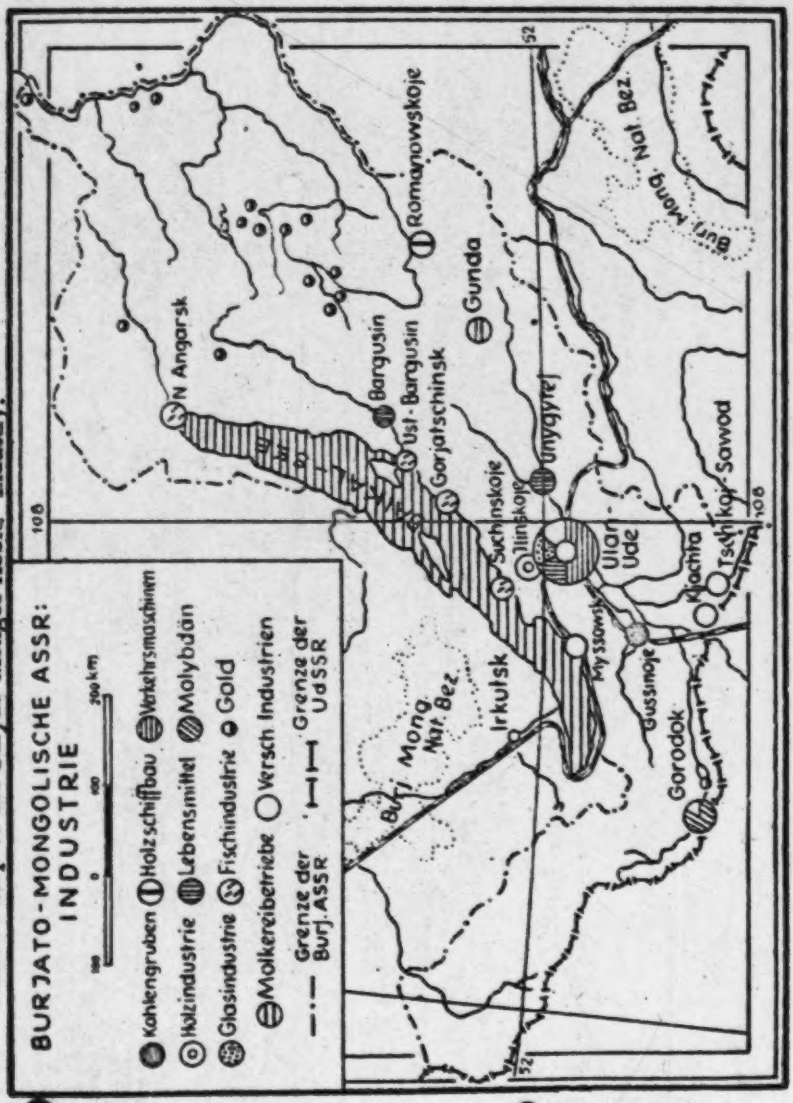

● Coal Mines
◐ Construction of wooden ships
⊜ Transport machinery
◎ Wood industry
▨ Groceries
▨ Molybdenum
⊙ Glass industry
◔ Fish industry
◒ Gold
▤ Dairy plants
○ Various industries

/215/

—·— Border of the Buryat ASSR
⊢—⊣ Border of the USSR

kilometers, and its population numbers /255/ 108,400 (1939), of which approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000 inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking installation has been added to the older oil refinery in order to process the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

433 and repair shops for motor vehicles, factories have arisen here in which dredges, drilling machines, and other mining needs are produced. There are even factories for the production of glass, crockery, and electric lamps (Pravda November 12, 1947); these factories, according to various announcements, even exceed their annual quota. For these reasons the growth of the city to more than 50,000 inhabitants (1950) is understandable. But, on the other hand, large plants also appear here; mostly they are oriented toward raw materials, and their founding for the most part goes back to the second Five Year Plan. These plants are responsible for supplying extraordinarily large areas, indeed in part for the entire Far Eastern region. This results naturally not only in a burdening of the transportation system but also to inconveniences in regular supplies.

396 Shipbuilding has been fostered with the greatest of energy in the last few years. If Vladivostok with its dockyards for military and commercial ships was the leader in the past, it is at present surpassed by Komsomol'sk in this connection. Nothing has been announced about the capacity of the dockyard installations, but the estimate of the costs for building dockyard installations under the second Five Year Plan give a certain idea of the size of these installations. These costs were six times as large as the sums that were laid out for building the Marty ship dockyard in Nikolayev on the coast of the Black Sea in the Ukraine. This yard was built at approximately the same time and has six docks. The first sea-going ship left Komsomol'sk in 1939. Since then the dockyard installations here have been further expanded. According to their supplying plant, "Amur Steel," whose costs were somewhat higher, the Komsomol'sk dockyards are absolutely the largest plant which has been built in the Far East. The known shipyards in Vladivostok, in Nakhodka in the same area, and also in Nikolayevsk at the mouth of the Amur and in Khabarovsk /178/ have been further expanded. New shipyards have come into being in Sovyetskaya Gavan', in Petropavlovsk on the Kamchakta Peninsula, in Aleskandrovsk on Sakhalin, and in Magadan, which has already been mentioned. In the last two places named, however, there were not new constructions; only repairs were made. Warships were built in Vladivostok, Komsomol'sk, Khabarovsk, and Nikolayevsk. Sovyetskaya Gavan' is supposed to have been expanded recently as a base for smaller man-of-wars. Dockyards in the various river areas are available for building river vessels. Ulan-Ude takes care of the Selenga shipping. In the Amur area there are three dockyards: Kokuy near Sretensk on the Shilka, the left source

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133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/2/216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over 487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak 491 (Chinese: Maimachen). This overland route, expanded into an auto- 496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this 491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has re- [161] ceived its name. By 1939 it already numbered 70,000 inhabitants, and today its population is estimated to be more than 150,000. The •[34] city has a large river harbor with an important shipyard in which sea- [329] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [377] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire 361 area around the lower Amur. Already several years ago the city was 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

133 361 Of the more favorable bays on the northern part of the Sikhote-Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has developed quickly into a city with more than 20,000 inhabitants. It has also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

[504] [346]

361 For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

[505]

133 361 The real, vast mountain massif of the Sikhote-Alin' is very sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Istubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

137 Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

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Here in 1950 a Melioration Machine Station was erected, the first in the Krai, which is to be followed by seven others. Of great significance is the development of agriculture on the Kamchatka Peninsula. Before World War I, according to Soviet figures, the area under cultivation was 4 hectares; in 1938 it was 2,778 hectares. Since then it has further increased. In 1950 there were more than 10 kolkhoz. In 1952 a scientific expedition was sent out from Khabarovsk to Kamchatka to investigate and to prepare for the gaining of additional land for agriculture. In the same year two Melioration Machine Stations were erected, which in the next three years made nearly 40,000 hectares of swamp and taiga country available for agriculture. From Sakhalin, too, successes in the winning of new land were reported. Prominent is the fact that also the native population (Gilyak in the "Chir Unvd" Kolkhoz, i.e., "New Life Kolkhoz") has been used with success in agriculture. How quickly the agricultural occupation of southern Sakhalin has been carried out is indicated by two reports: in 1949 there were 33 kolkhoz there and 3 sovkhoz, and in 1950 there were already 69 collective farms.

The progressive mechanization and technicalization of agriculture constitutes a second important part of the content of the more recent reports. The number of Machine Tractor Stations (MTS) has increased in all regions. In the Buryat Mongol ASSR their number increased from 25 in 1937 to 36 in 1948; in Khabarovsk Krai they almost doubled in number from 1938 to 1947, when they numbered 76. In 1948, 25 Grass Mowing Machine Divisions were installed in the Buryat Mongol ASSR; and from 50,000 hectares of meadowland these Divisions were supposed to supply winter hay for the great kolkhoz, since the manual work force was not sufficient. In the Buryat Mongol ASSR the first agrarian city in the Soviet Far East was also established in 1950, and for this 400 two-story dwellings and 30 one-family houses were constructed. Remarkable, too, are the reports that special mowing threshers were used in harvesting the soy beans and the rice.

Among the plants whose cultivation has been especially fostered, soy beans and rice stand in first place. In 1949 there were 16,000 more tons of soy beans harvested than in 1948. With rice cultivation, on the other hand, progress seems to be made only slowly. In 1937 in the Far East 36,400 hectares were cultivated with rice, and, according to the last Five Year Plan, the area is to be increased to 37,000 hectares by 1950; this is very modest considering the fact that in 1913 there were 57,000 hectares of rice fields. Great attention is also devoted

river of the Amur; Blagoveshchensk with the important Lenin Dockyard at the mouth of the Zeya; and Khabarovsk at the beginning of the lower course of the Amur. 396

In the machine industry the construction of transportation machinery in especially large plant installations is in the foreground. The railroad workshops of Ulan-Ude, Chita, Khabarovsk, and Ruzhina near Vladivostok serve to supply and maintain the railroads; all of these workshops are large installations. The most important of these is the plant for the construction of locomotives and railroad cars in Ulan-Ude. It constitutes an entire section of the city, which, according to a Soviet report, has three times as many inhabitants as all of Ulan-Ude (Verkhne Udinsk) before World War I. Since at that time the city had approximately 15,000 inhabitants, approximately 45,000 persons must be connected with this plant in some fashion. This also corresponds to the importance of the plant which is competent to supply the railroads not only of the Far East but also of all east Siberia. According to the plant's projected capacity, it is supposed to be in a position to deliver 2,000 passenger cars and up to 12,000 freight cars a year in addition to an undetermined number of locomotives. The other large railroad workshops mentioned above are in a position to repair locomotives and to overhaul them completely and also to a limited extent to build railroad cars. The base for motor vehicle production lies in Khabarovsk, which in the "Kaganovich Plant" has the largest installation of this type in the Far East. Airplane factories exist in Khabarovsk and Vladivostok. In contrast to the industry for transport machinery, the construction of agricultural machinery is distributed among a large number of places. Only Khabarovsk has a large plant. 397 398 399 407

In the building materials industry, with progressive industrialization, the need for modern building materials grew so much that a bottleneck has arisen here. Numerous small brick works and lime kilns must first be created, which are scattered over the vast areas and which in each case satisfy the local needs. A mechanized large brick-works was brought to life in the city itself for the building up of Komsomol'sk. The need for cement which is especially great had to be covered for the most part by other regions in the Soviet Union /179/ up to the beginning of World War II. 339

Up to 1937 there were in the Far East only two cement factories, which were in Spassk north of Vladivostok. Production here in the same year was 164,000 tons. By 1942 this production had already reached 525,000 tons. In this output the production of the cement

Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their chest but with their neck. The main food of the Gilyak is fish dried [262] in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [141] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [523] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role; this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

636 administrative units, such as, for instance, the West Siberian Territory,
656 the East Siberian Territory and the North Caucasus Territory. The Far Eastern Territory was, however, the last to be affected by these administrative reforms, and then only after the purges there had been completed. On October 20th, 1938, it was decreed that the Far Eastern Territory would cease to exist and that two new 'Territories' would take its place, the Khabarovsk Territory, which still included the bulk of the former F.E.T., and the Maritime Territory, with Vladivostok as the capital. After the war the administrative splitting up of the Soviet Far East was carried further. In the west, the Khabarovsk Territory lost the Amur Province (administrative centre: Blagoveshchensk) and, in the east, Sakhalin was removed from its jurisdiction and made a self-contained province.

625 To consolidate the position of the party in the two new 'Territories',
433 a position so badly shaken by the purges, the government saw it necessary to strengthen the powers of the N.K.V.D., particularly the control which the latter exercised over several vital branches of Soviet Far Eastern economy. The full extent of the N.K.V.D. rule in the Far East was disclosed by the Soviet Economic Plan for 1941, a secret document produced for inter-departmental use, but not intended for the Soviet public and still less for foreigners.* It showed that the People's Commissariat for Internal Affairs was a much more important organizer of certain industrial activities than the ministries nominally responsible for them. The plan revealed, for instance, that the N.K.V.D. controlled nearly 83 per cent of the coal output of the Khabarovsk Territory. Only 13 per cent of it was in the hands of the People's Commissariat for Coal (*Narkomugol*) and the remaining 4 per cent was split up between other ministries. In the field of timber production the N.K.V.D. did not hold the same monopoly. It provided 'only' one-third of the entire timber supply of the territory, slightly more than the quota allocated to the People's Commissariat for the Timber Industry (*Narkomles*). Another important sector of N.K.V.D. work was production of building material. Over one-fifth of the bricks produced in the Khabarovsk Territory in 1941 was to come from the Chief Administration of Corrective Labour Camps, one of the specialized agencies of the N.K.V.D. In the much smaller Maritime Territory the N.K.V.D. has little importance as an economic factor, except for the timber industry, where it tackled over 20 per cent of the whole production. But

* The full title of the document is 'Gosudarstvenny Plan Razvitiya Narodnogo Khozyaistva S.S.S.R. na 1941 god (Prilozheniya k Postanovleniyu S.N.K. S.S.S.R. i TsK VKP (b) Nr.' 127 ot 17 Yanvarya 1941 g.) – State Plan for the Development of the National Economy of the U.S.S.R. for 1941 (Appendices to the Decree of the Council of People's Commissars and of the Central Committee of the All-Union Communist Party (Bolsheviks), Nr 127 of January 17th, 1941.) The material on the economy of the Soviet Far East is contained in the appendices 371, 372 and 373, pp. 324–336.

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even where the N.K.V.D.-M.V.D. has no direct economic power it is the decisive political force, above all, in border areas like the Maritime Territory of the Soviet Far East.

There are indications, however, that the police ministry has encountered certain difficulties among the Far Eastern Russians during the war and post-war period. Conditions were certainly favourable to a re-emergence of that Far Eastern regionalism which Soviet power has tried so hard to eliminate. The people of Vladivostok, in particular, must have felt once more that the natural destiny of their city was that of a window into the world. They saw the many American lend-lease shipments arriving in their harbour and were bound to draw certain conclusions about the desirability of international trade and Soviet-American co-operation. More than people in other parts of the Soviet Union must the Russian inhabitants of the Pacific coastal areas have resented the policy of rigid isolationism which the Soviet Government has pursued particularly since 1947.

This frame of mind of the 'Far Easterners' makes it understandable that the very existence of an American consulate in Vladivostok was a matter of concern to the Soviet Government. The building of the consulate was put under constant supervision and for long periods it was floodlit at night. In 1948, the Soviet Government used a flimsy pretext to demand from the United States that they should withdraw their consular personnel from the Pacific port. The measure had little importance for the Americans as the activities of the four American consular officials were extremely limited, but it had a certain symbolic significance. The closing down of the consulate was a way of telling the people of Vladivostok that their hopes of their city becoming a link between Russia and the West were once more doomed. Some years later the charge was made that the consulate had been the centre of a spy-ring. This accusation was first put forward in the short story *In a Seaside Town* ('V Primorskom Gorode') which the popular Soviet illustrated *Ogonyok* published in 1950. In the daily press the 'plot' was mentioned for the first time on February 8th, 1953, when *Izvestiya* wrote : 'In 1947, the organs of the state security service liquidated a spy-nest organized by the assistant naval attaché at the American consulate general of Vladivostok, Richard'. *Izvestiya* produced no further details nor any evidence to support its disclosure which it simply quoted from a book *The Secret Weapon of the Doomed*. This latter work had come out under the auspices of the Komsomol organization. The absurdity of the Vladivostok spy story does not preclude the possibility that many Russian Far Easterners in the late 'forties' and early 'fifties' were persecuted for pro-Western sentiments just as others had been victimized for alleged pro-Japanese leanings in the late 'thirties.'

The particular sensitiveness which the Soviet authorities have shown

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167 higher. Since the agents were remunerated on a 'piece rate basis', they
656 were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

167 Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

162 The majority of the voluntary colonists who, up to the end of the
361 Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

369 As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

185 The encouragement of the urban population in the Far Eastern
369 provinces led to neglect of agriculture. During the period of the First
433 and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

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demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[25] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[26] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[27] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

241 to the cultivation of sugar beets; the area devoted to their cultivation has again increased in the Khanka Lake area. Tea is supposed to become a new product of the /Russian/ Far East. In 1950 /131/ the [242] Botanical Institute of Leningrad sent an expedition there in order to explore, by attempts at cultivation, the practical possibility of planting tea bushes.

241 433 All the reports mentioned above are only individual pictures of the agricultural film which is being run in the Far East. These pictures show the great strivings of the Soviet Union to use all its power to advance agriculture in these regions. If the grain harvest in the actual Far Eastern area had increased 150 percent in 1947 as compared with 1913 and the potato harvest had even increased 200 percent (Trud, 25 October 1947), this increase in production stands in contrast to an approximately 300 percent increase in population in the same period; accordingly even today the same problems still exist in supplying the population of this area with food, as has been described in the above chapter, since an additional population increase runs parallel to the increase in production, even though the two curves may perhaps have gotten somewhat closer since 1947. The actual Far Eastern regions (not including the Buryat Mongol ASSR and the Chita Oblast) can still be regarded even today as import areas in terms of food. Their dependence on obtaining supplies is alleviated by the increased cultivation of potatoes and soy beans, and import at present is no longer a problem since Manchuria with its agricultural surplus has beerr brought into the Soviet sphere.

Animal Breeding

231 433 In the livestock-breeding of the Soviet Union Transbaykal assumes a prominent position. While on the average there are 233 cattle to 1,000 persons in the Soviet republic, there are 1,367 cattle to 1,000 persons (1938/39) in the Buryat Mongol ASSR; and while there are 602 sheep and goats per 1,000 persons on the overall average in the USSR, there are here 1,786. The important livestock-breeding areas lie left [232] of the Selenga and right of the Ude. The breeding of better strains is being carried out according to plan by crossing the Mongol cattle with the Simmentaler and by crossing the native sheep with the Rambouillet-Merino. The steppe region left of the Selenga is thus the breeding ground for improved strains. The livestock here is housed for the winter in warm stalls and fed with prepared feed. The horse, which constitutes

11.7 percent of all the livestock, and also the pig, which constitutes 6.7 percent, play a slight role in the animal economy. The situation of animal breeding in Chita Oblast is similar and has the same favorable perspectives. Dairy farming stands in the foreground here in cattle breeding. In the steppe regions of the Onon and Argun a number of studs also serve horse-breeding. In the same region camels are also bred, whose number is given at 7,000. Transbaykal as a whole is a surplus area both in grain cultivation and in animal breeding. 231 433* [234]

/132/ The following table indicates how very prominent the Buryat Mongol ASSR and Chita Oblast are in animal breeding in the overall economy of the Soviet Union:

On a collective farm in 1938 there were:

	Soviet Union	Buryat Mongol ASSR	Chita Oblast
Horses	0.7	2.0	2.5
Cattle	2.2	6.0	6.5
Sheep, goats	2.9	19.0	11.9

It is different in the Amur and Ussuri country. Animal breeding is insufficient and doesn't even cover the needs of the area. Even horses must be imported. In the southern part of the Ussuri region milk and work cattle are kept; otherwise a dairy cow farming worthy of mention has developed only in the vicinity of the cities. Meadowlands are lacking for the maintenance of cattle on a large scale. On the other hand cattle can be found in isolated cases everywhere, even in the far north. On Kamchatka their number reaches several thousand. The number of pigs in the Amur and Ussuri region is comparatively larger than in Transbaykal since the Chinese and Koreans also keep pigs. The quality, however, is low. In meat supplies, too, the Far Eastern region requires additional imports.

The reindeer breeding in the extreme northeast of the region deserves special attention. The moss tundra extending from the Chukchi Peninsula into Kamchatka offers excellent grazing land. With the European north, these regions stand in first place in reindeer breeding in the Soviet Union, which has contributed in its further development by establishing several reindeer sovkhoz. The number of animals is estimated at a total of approximately 750,000. The reindeer not only provides meat for local needs, but also provides meat for canning, for which a special factory has been erected in Anadyr'. The hides of

231 the young reindeer are processed for leather and as wild leather (chamois leather) are a product in demand for export.

Hunting

224 The valuable fur-bearing animals, once so numerous, have almost completely disappeared from the settled areas and have withdrawn into the inaccessible wastelands. And, nevertheless, the Far Eastern region with its vast, wild forests is still, even today, a grateful empire of hunters. Approximately a third of the furs acquired in the Soviet Union are won in the Far East. Transbaykal is not so active in this. Squirrels and foxes provide the bulk of the skins ; the sable has been completely exterminated in wide stretches of land and is now only rarely encountered. In the tundra region the Polar fox is the most important animal hunted. /133/ The number of large wild animals has also been heavily decimated by the earlier rapacious hunting. The spotted stag /Fleckenhirsch/, sought because of its "Panten" /unhardened antlers/ and formerly very numerous in the Amur and Ussuri region, occurs now only very rarely in the open hunting ground and is kept today only in animal parks in the Sikhote-Alin'; of these seven are known with several thousand stags. For the protection of the plant and animal world rather large areas in the Sikhote-Alin', on Kamchatka, and on Lake Baykal have been declared nature protection areas.

Hunting for fur-bearing animals is organized by the state and is done from numerous "bases, " where the hunter receives not only his hunting equipment but also other necessities of life, and then goes out to hunt in cadres. In their hunting, these state hunters have to follow fixed instructions, varying from place to place, for the sparing and preservation of the wild life. At the end of the hunting period the skins are delivered to the bases, and the hunter is paid according to his output.

Fishing and Hunting of Sea Animals

226 In Transbaykal, which lies inland, fishing has only a subordinate role. Apart from small lakes, which are, however, rich in fish, the fishing practised professionally is concentrated on Lake Baykal. Its outstanding fish is the omul (Coregonus omul Pall.), a type of salmon, [255] whose spawn is bred and set out. Some fish canning factories in various ooo localities on the coast process the catch not used locally. Not insignicant

knowledge of the wealth of this region were spurs to pushing recklessly forward in the exploitation by using work camps. As a consequence, the Kolyma area today is among the most notorious regions in the Soviet Union, and is one of those most feared, because of the harshness of its climate. 135

For the opening up of this area building was done on the harbor and city of Magadan on Nagayevo Bay. The inhabitants of this city today are estimated to be 50,000. A highway was laid out to connect with the gold fields; by 1940 this highway had already attained a length of more than 700 kilometers, and it connected all the important mining centers. The road is kept usable for trucks the whole year through. The supplying of the entire area is done via the sea route, for the most part via Magadan, and for the rest from the north via the Kolyma. Since these connections, however, are closed off by ice for more than six months during the long winter, they proceeded to create a permanent land connection by building a highway from the center of the gold district to Yakutsk on the Lena. Of considerable importance for the development of this regions is also the fact that hard coal has been found on the Kolyma in the vicinity of the town of Verkhne-Kolymsk. Some Sovkhoz have been founded as a local source of supply for vegetables, milk, and fresh meat. [491]

The main gold fields lie west of the Buyunda, a /169/ right tributary of the Kolyma, primarily in the area of the Srednikan and Orotukan rivers. At first only the very productive gold streams were exploited, but then the mining of mine gold was also taken up. Mine gold is especially rich in the mountains on the Srednikan, on the Utina, and on the Khatynakh. The most important centers of the gold district are Srednikan, Orotukan, Khatynakh, and Seymchan.

Gold extraction in the Kolyma region developed as follows in comparison with the total production of the Soviet Union (Figures are in 1,000 kilograms): 316 433

	1933	1934	1935	1936	1937	1938	1939
Soviet Union	83.0	120.0	149.0	163.0	176.0	192.0	210.0
Kolyma Region	0.3	1.2	8.0	12.3	20.0	30.0	51.0
Percentage of the whole supplied by the Kolyma Region	0.4	1.0	5.4	7.5	11.3	15.6	24.3

(Table continued on following page)

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433

	1940	1941
Soviet Union	225.0	240.0
Kolyma Region	51.0	55.6
Percentage of the whole supplied by the Kolyma Region	22.7	23.2

The share of the Kolyma region has risen to almost 25 percent of the total extraction done in the Soviet Union. According to definite plans, gold production in the Kolyma area is to be raised to 75,000 kilograms. Friedensburg, in his book on "Gold" which appeared recently, has collected together in a table of figures (63) all estimates and

63. Friedensburg, F., "Gold," Die Metallischen Rohstoffe /Metallic Raw Material/, Vol. 3, 2nd edition (Stuttgart, 1953), p. 178.

reckonings on the total gold extraction in the Soviet Union. With justice he points out the confusion that rules on this question even in foreign agencies versed in such affairs. Nevertheless, I do not shy from bringing the above table which rests on my own sources. The present production may be assumed to be approximately 250,000 kilograms (1952). In any case, it is certain that the Kolyma region stands at the head of all gold fields in the Soviet Union. According to the supplies explored, mining is assured for 15 to 20 years if the extraction remains at 75,000 kilograms.

The Forests and the Use of Wood

311 The forests of Transbaykal and of the Soviet Far Eastern regions are, by European standards, as large as countries. The forested area covers around 1,800,000 square kilometers. While the Far Eastern regions contribute around 17.5 percent of the total area of the USSR, these regions provide 21 percent of the total forested area.

The distribution and extent of the forests in the Soviet Far East are shown in the following table:

(Table on following page)

Soviet Union can rely on rich experience in the execution of projects of this type. Sufficient preparations in this direction have been made, as is summarized in the Atlas of Sources of Energy in the USSR, and from these preparations it can be seen what significant sources of energy, precisely in water power, still lie unused. The potential energy of water power in the Buryat-Mongol ASSR is estimated to be 7 million kilowatts. Chita Oblast is considered to be less favorable. The other Far Eastern regions are all the more richly equipped: their energy is reckoned to be 31 million kilowatts. 377

The Processing Industry

Some of the various branches of the processing industry have already been mentioned in the discussion of the raw material concerned. This applies especially to the wood and fish industries, which far exceed all other industrial branches, both in the number of plants and in the number of employees in these plants. From the extraordinary wealth of fish and wood it follows that the Far Eastern regions can not only supply themselves with these products but also that with their surplus they can contribute significantly in increasing measure to the supplying of the other parts of the Soviet Union. Wood, wood products, fish, and fish goods, therefore, form also the principal freighted goods which are sent out of the Far Eastern regions. World War II has had an extraordinary influence /177/ on the development of the other branches of industry. Various plants which had been moved to the Far East remained there after the end of the war; other plants were newly created or switched to another type of production in order to replace the loss in production in the areas affected by the war or also to ensure their own needs. Thus the supply situation today is generally more favorable than before World War II, and after this war it has been further improved by the erection of new installations. 438

In the selection of the location of the industrial plants the same principle apparently appears again and again. This principle is to so distribute these plants regionally in the vast area of the Far Eastern regions so that long transportation hauls are avoided as much as possible. The goal of this planning is to so equip the various areas with industrial plants so that each region can supply its own principal needs. The best example of this is the city of Magadan, from which the mining districts on the upper Kolyma are supplied and whose harbor is free of ice for scarcely six months. Besides repair installations for ocean-going ships 433 [185]

433 and repair shops for motor vehicles, factories have arisen here in which dredges, drilling machines, and other mining needs are produced. There are even factories for the production of glass, crockery, and electric lamps (Pravda November 12, 1947); these factories, according to various announcements, even exceed their annual quota. For these reasons the growth of the city to more than 50,000 inhabitants (1950) is understandable. But, on the other hand, large plants also appear here; mostly they are oriented toward raw materials, and their founding for the most part goes back to the second Five Year Plan. These plants are responsible for supplying extraordinarily large areas, indeed in part for the entire Far Eastern region. This results naturally not only in a burdening of the transportation system but also to inconveniences in regular supplies.

396 Shipbuilding has been fostered with the greatest of energy in the last few years. If Vladivostok with its dockyards for military and commercial ships was the leader in the past, it is at present surpassed by Komsomol'sk in this connection. Nothing has been announced about the capacity of the dockyard installations, but the estimate of the costs for building dockyard installations under the second Five Year Plan give a certain idea of the size of these installations. These costs were six times as large as the sums that were laid out for building the Marty ship dockyard in Nikolayev on the coast of the Black Sea in the Ukraine. This yard was built at approximately the same time and has six docks. The first sea-going ship left Komsomol'sk in 1939. Since then the dockyard installations here have been further expanded. According to their supplying plant, "Amur Steel," whose costs were somewhat higher, the Komsomol'sk dockyards are absolutely the largest plant which has been built in the Far East. The known shipyards in Vladivostok, in Nakhodka in the same area, and also in Nikolayevsk at the mouth of the Amur and in Khabarovsk /178/ have been further expanded. New shipyards have come into being in Sovyetskaya Gavan', in Petropavlovsk on the Kamchakta Peninsula, in Aleskandrovsk on Sakhalin, and in Magadan, which has already been mentioned. In the last two places named, however, there were not new constructions; only repairs were made. Warships were built in Vladivostok, Komsomol'sk, Khabarovsk, and Nikolayevsk. Sovyetskaya Gavan' is supposed to have been expanded recently as a base for smaller man-of-wars. Dockyards in the various river areas are available for building river vessels. Ulan-Ude takes care of the Selenga shipping. In the Amur area there are three dockyards: Kokuy near Sretensk on the Shilka, the left source

137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 162 231 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 162 The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population here is more agricultural. In general, however, the agrarian economy 433 is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

means of transportation. They have built 653.2 kilometers of railroad lines, and in addition they have improved the land roads, too, so that they can be traveled regularly by buses. However, this opening up to traffic has generally been limited to the regions near the coast and to the most southerly part of the island, while the greatest part of the interior, as in northern Sakhalin, remained left to itself. Now the most important coal deposits also lie not far from the coast, and the Japanese succeeded in bringing production in a large number of mines up to approximately two million tons by the beginning of the last war. Of this 500,000 tons could be exported to Japan. The remainder was used in Sakhalin, above all in the wood industry, which had been developed on a large scale by the Japanese. Since 1929 the Japanese had gone about, in a planned fashion, the building up of a cellulose and paper industry in southern Sakhalin, in order to be able to supply their home economy with these products. At the end, just before the outbreak of war, there were eleven large cellulose and paper factories in the country, and their production constituted almost 90 percent of the industrial production of southern Sakhalin. The share of these factories in the total production of Karafuto was around 60 percent. In addition, southern Sakhalin delivered large quantities of wood as cut wood and raw lumber. Southern Sakhalin was also very important to Japan as a base for fishing, which produced rich surpluses. However, in one thing the Japanese did not succeed: the securing of food for the population from the island itself. In this particular Sakhalin was an importing region, although the Japanese made every effort to expand agriculture and the breeding of livestock.

/283/ After the evacuation of the Japanese and the taking over of southern Sakhalin by the Soviet Union, the Soviet Union has striven to fill the land with people and to get the economy's production going again. On this there are numerous reports, which tell especially of the founding of kolkhoz and sovkhoz. In addition there are constant reports on the establishment of fishing stations and of fish-processing central stations, but there are only a very few reports on the taking over of coal mines and of getting them into production. There is little information on the installations of the wood industry, although it is to be assumed that the Soviet Union has above all laid value on getting the industrial plants into production, and apparently, too, everything has been done so that these plants could take up their production again.

by Nishikov's private hunting preserve. Near by, the prisoners of the invalid camp called 'Seventy-second Kilometer' work in a glass factory which is under the special protection of Gridassova and consequently always registers a marvelous production record. During the War burnt-out electric bulbs were repaired there, since new bulbs were almost unobtainable and even tiny bulbs were sold at a hundred and fifty rubles.[11]

7) The Kolyma Buildup (1932-1946): As has been indicated earlier, Magadan and the entire Kolyma area were almost uninhabited in 1932 when the expedition under Berzin reached Nagayevo port; however, although at a fantastic cost in human lives, remarkable development of the Kolyma area was made. As early as 1946 it was clearly known that Dalstroy's extensive and many-sided activities were coordinated in a system of administrative organizations, each of which deals with a specific section of the region's economy—the centers of all these organizations are located in Magadan. At that time the following were known to exist: administrations of supplies, fish industry, coal, wood manufacturing industry, road building, agriculture, motor transport, and a few others. Essentially these administrations have the same task—they must insure uninterrupted operation and success in the chief industry of the region—gold mining, and with this ultimate goal in mind, they must supply all necessary materials and products. The ideal situation, as desired by Dalstroy and no doubt by Moscow as well, seems to be for Magadan to be completely self-sufficient and to turn over to the state all gold mined. As far as the fishing industry is concerned, it is known that fish is exported from Kolyma to Vladivostok. Attempts have been made to extract oil locally to supply motor transport in the region; however, there has been little success in this project although the presence of oil deposits in the area has been definitely established.

Road construction was one of the primary tasks upon the initial efforts in Kolyma; just before World War II, another spurt in road building occurred. In 1939 the administration of road building was split into two independent organizations, one for the south and one for the north. By that time, the trunk highway from Magadan to Seimchan was being extended in the direction of the newer gold fields on the upper Indigirka River, and a number of side roads were also constructed to connect the main gold fields on the upper Kolyma River with the highway. Altogether, according to the best estimates, there were approximately 901 kilometers of paved roads in actual use at that time. However, this was inadequate, and in 1939-1940 a new plan of extensive road building was drawn up covering the construction of new roads in the extreme north, at the Kolyma estuary, and in the south, on the upper Kolyma, in the so-called "old" gold mining districts. In addition to new tributary roads, work was started in 1939 on the construction of a second motor highway from Dresva Bay on the Sea of Okhotsk to the gold-mining territory on the upper Kolyma. Even far more reaching were the plans for road construction east of the Kolyma estuary, in the tundra of the Arctic coastal region, down to the Bering Strait, where geological exploration had discovered gold fields of exception richness, perhaps exceeding those of the upper Kolyma. There have been no exact data concerning these plans; understandably, the information coming from the deep interior of the Kolyma region is generally far more scant than that coming from Magadan. However, at the beginning of the Russo-German War in 1941, all these plans for road construction were curtailed for obvious reasons. As has been indicated earlier, practically all construction activities were halted and many short-term prisoners were even sent back to European Russia where they served actively in the defense of the Soviet Union. In connection with the construction of roads just prior to the German

11 Ibid., pp. 110-111.

are known regarding the total prisoner population, one thing is certain and that is that the entire Magadan enterprise is on a very large scale and that prisoners form the greatest majority of workers. Due to the fact that three known prisoner ships which were operating in 1940, the "Felix Dzherzhinskiy," "Uritsky," and "Dzhurma," are still plying the same Vladivostok-Magadan route, it is a reasonable assumption that the prisoner traffic is continuing. (Note: It is difficult to assume that these ships have changed the nature of their cargo inasmuch as it is definitely known that the holds of these ships were constructed in a special manner to transport large numbers of prisoners; although it is admittedly possible to change the internal structure of these three ships, it is dubious that this has been done, because it is known from reports from Radio Magadan that activities are being expanded throughout the Kolyma economy. Since the death rate has been so high in the past among prisoners, it is difficult to see how further development of the region could be undertaken without importing further number of prisoners every year.)

8) The City of Magadan: One of the results of Berzin's administration was the construction of the city of Magadan; by 1941 the population of this city had been estimated at approximately 70,000, composed of NVD officials and hired specialists who volunteered for service under the Dalstroy administration. It was further estimated that at that time there were some 50,000 such specialists scattered throughout the region. Another section of the population in the Magadan area, numbering a few thousands, was represented by exiles, mostly highly qualified experts whose work in Dalstroy had entitled them to some special privileges, although they are still subject to the NVD. Outside of the city of Magadan there were several big camps for prisoners with fluctuating populations.

The central streets of the city were lined with two- and three story houses. Electricity was provided by a power station which also supplied electricity to the taiga areas by means of wires strung over the surrounding mountain ridges.

The population of Magadan faced a problem in the procurement of foodstuffs. In an effort to relieve this situation, "Magadan has a large experimental farm equipped with hothouses. The latter already (1941) grew 'Kolyma' apples, pears, peaches, and even oranges, not to mention a variety of berries, while all kinds of vegetables are developed in the hotbeds, including cucumbers, cabbage, eggplant, muskmelon, and watermelon."[12] The chief problem in the attempts at agriculture was the geological ice. Repeated deep plowing of the soil, the use of fertilizer in great quantities, and similar measures have been used in scientific experiments and have achieved good results. Thus, in some places the ice formerly came to within one to two feet from the surface of the ground, but it has been pushed down to six or eight feet, which has made possible the cultivation of cereals. (Note: Agriculture in Magadan and the entire Kolyma region will be treated in a subsequent report.)

9) Summation: The entire Kolyma region is growing in importance constantly, and due to the produce obtained from this area, in addition to the increasing population, Magadan and the hinterland cannot be ignored or treated lightly. There are two general aspects of the Kolyma region which should be noted:

1) In the New York Times of 9 January 1946, it was reported that there is total gold supply in Moscow of between the wide range of two and ten billion dollars. The interesting aspect of this surmise is the fact that in 1925 or even in 1930 the Soviet government was forced to sell the treasures of Russian museums in order to pay for machinery that it had purchased abroad. Soviet gold has made its appearance only

12 Dallin, op. cit., p. 133.

during the years 1931 and 1934, and it continued to appear in increasing quantities even during the "Great Fatherland War" when the entire nation was absorbed in the defeat of the German armies. The Soviet Union was in great need of gold some twenty-five years ago, but the gold supplies have grown immensely since that time; the richest gold-producing area in the Soviet Union is Kolyma, and due to the known build-up of the area, it is a reasonable assumption that Kolyma is providing the Soviet Government with the majority of its growing gold reserves. It is this fact that makes Magadan and the entire Kolyma area of such importance, not only to the internal economy of the Soviet Union but also to the future of world politics, because it is a well-known fact that the Soviet Union will use any means at its disposal to increase its international prestige. It is not mere speculation that Soviet offers of economic assistance to foreign nations may have the backing of Kolyma gold. 436 433

2) The Kolyma region is intended to become a self-sufficient area, not only in agriculture but also in fishing and numerous other industries including the production of coal, oil, machinery, among others. A similar situation as was found in Sakhalin may also be said to exist in Kolyma--local self-sufficiency while exporting to the interior the products desired by the Communist planners. For Sakhalin it was concluded that the overall plan was for the Oblast to become self-sufficient while exporting to the mainland oil and fish products; for Magadan and Kolyma, it also appears that the overall picture calls for self-sufficiency while exporting gold to Moscow. 433

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Soviet Union can rely on rich experience in the execution of projects of this type. Sufficient preparations in this direction have been made, as is summarized in the Atlas of Sources of Energy in the USSR, and from these preparations it can be seen what significant sources of energy, precisely in water power, still lie unused. The potential energy of water power in the Buryat-Mongol ASSR is estimated to be 7 million kilowatts. Chita Oblast is considered to be less favorable. The other Far Eastern regions are all the more richly equipped: their energy is reckoned to be 31 million kilowatts.

The Processing Industry

Some of the various branches of the processing industry have already been mentioned in the discussion of the raw material concerned. This applies especially to the wood and fish industries, which far exceed all other industrial branches, both in the number of plants and in the number of employees in these plants. From the extraordinary wealth of fish and wood it follows that the Far Eastern regions can not only supply themselves with these products but also that with their surplus they can contribute significantly in increasing measure to the supplying of the other parts of the Soviet Union. Wood, wood products, fish, and fish goods, therefore, form also the principal freighted goods which are sent out of the Far Eastern regions. World War II has had an extraordinary influence /177/ on the development of the other branches of industry. Various plants which had been moved to the Far East remained there after the end of the war; other plants were newly created or switched to another type of production in order to replace the loss in production in the areas affected by the war or also to ensure their own needs. Thus the supply situation today is generally more favorable than before World War II, and after this war it has been further improved by the erection of new installations.

In the selection of the location of the industrial plants the same principle apparently appears again and again. This principle is to so distribute these plants regionally in the vast area of the Far Eastern regions so that long transportation hauls are avoided as much as possible. The goal of this planning is to so equip the various areas with industrial plants so that each region can supply its own principal needs. The best example of this is the city of Magadan, from which the mining districts on the upper Kolyma are supplied and whose harbor is free of ice for scarcely six months. Besides repair installations for ocean-going ships

Mountain Range to the upper course of the Tyrma and then follows this river to the point where it empties into the Bureya. The railroad had already been completed as far as Ust'-Tyrma in 1942. Since then the construction of this railroad, which now runs parallel to the course of the Bureya, has been continued via Chekunda to Umal'ta. With this an outlet has been created for Bureya coal toward the south to the Amur Railroad, but the waterway of the Bureya is also used to transport the coal away. The expansion of this waterway is being worked on. In addition, there is the fact that the Baykal-Amur Railroad also crosses the same region. This railroad leaves the Selemdzha at Norsk, crosses the Turana Ridge and reaches the middle course of the Bureya at Chekunda, to continue further over the Bureya Mountain Range to Komsomol'sk.

The construction of both these railroads in the sphere of the Bureya Mountain Range has above all an industrial significance. Next to coal, wood is the most important item for transport which this region can supply. In the traffic going the other way, the bringing in of food is probably the main task of the railroads. The Bureya also plays a certain role in this connection; for, according to various reports, continuous loads of grain go up the river during the period when it is navigable. The supplying of the new Bureya coal region must be assured from outside because the Bureya valley itself is very unfavorable for agricultural settlement. Everywhere here the Bureya has the character of a mountain river. Its valley between Ust'-Umal'ta and Ust'-Niman is up to 3 kilometers wide, but the river, which here is very wild, regularly floods a part of this country and causes extensive swampiness. From Ust'-Niman to Chekunda the right bank is steep and rocky; the left bank is, to be sure, level, but it is taken up by swamps which are difficult to travel. Below Chekunda as far as the settlement of Paykan the valley narrows, and on both sides the rocky mountains come right down to the shore. Only shortly before leaving the mountain ranges does the valley meadow widen into an area favorable for settlement. Thus the prospects for agrarian settlement in the area of the Bureya valley are not very good, and it will require long years of difficult cultivation work before the new coal mining region will be able to supply its own food.

If we survey the entire Bureya Highland, then, it can be determined that, apart from the spottily occupied gold regions in the north and apart from the Bureya and Tyrma valleys which are now filling up with people in a limited area, the other regions are as good as

1: Kolarz J-4 (no date) 1954 RR1 Siberia. RR1

THE 'NORMAL' COLONIZATION

So far only those forms of colonization in the Far East have been mentioned which might be described as typically 'Soviet', ranging from the terror exercised by the N.K.V.D. to the exuberant enthusiasm of the Komsomol.* In addition, the Soviet Government has continued the normal, ordinary colonization which went on in Czarist times. The Soviet Government has provided a number of genuine incentives to make it worth while for Russian peasants and workers to go to the Pacific coastal areas.

The first important special measure for the encouragement of voluntary migration to the Far East was a decree which the government issued on December 11th, 1933. It freed the collective farmers of the Far Eastern Territory for the duration of ten years from all compulsory grain and rice deliveries to the state. It reduced by 50 per cent the compulsory deliveries of meat, vegetables, milk and wool, and in certain distant areas such as Sakhalin and Kamchatka these deliveries were abolished altogether. To the workers and technicians of the Far East the decree of December 11th, 1933, brought higher wages and salaries. The personnel of the Far Eastern mining industry received an automatic rise of 30 per cent, and all other categories of workers and technicians one of 20 per cent. On the same occasion the pay of soldiers of the Special Far Eastern Army was increased by 50 per cent, and that of officers by 20 per cent.

It seems that these 'Stalin Privileges' as they were called were not quite sufficient to attract settlers to the Far East. Another decree was, therefore, published on November 17th, 1937, which aimed chiefly at the encouragement of agricultural colonization. On the strength of that decree, groups of collective farmers going to the Far East were to be exempt from taxation for six years and to obtain state credits for fifteen years. The decree further pledged the state to pay 50 per cent of the costs of all buildings erected by the colonists.

So much for the legislation passed for the encouragement of colonization in the Far East. In practice, things proceeded very often on lines that are reminiscent of Gogol's *Dead Souls*. Each Soviet state authority or building organization in need of manpower for the Far East had its own small recruiting office in Moscow. Special recruiting agents were employed who were paid a fixed sum for every person whom they persuaded to take up work at a Far Eastern building site or factory. The usual tariff was thirty roubles per person, but occasionally the fee was

* Another special form of Soviet colonization in the Far East was the mobilization of Jews for the settlement of Birobidzhan. The author has described the failure of this experiment in *Russia and her Colonies* (London, George Philip and Son, Ltd., pp. 173–8).

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

316 (previously N.K.V.D.). Under the general direction of the latter a
655 powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

635 The activities of the Dalstroy are many-sided. The 'Mining Adminis-
625 tration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of
[461] 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

167 The colonization activities of Dalstroy have changed the character
361 of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

indeed, 'The further away we send a man, the more we must be able to trust him'.[4] It can be taken for granted that a man whom the Communist Party considers particularly trustworthy will be a hard-working official, and that he will not commit any crimes such as those of which Semenchuk and Startsev had been convicted. But a trustworthy communist is not necessarily a man who understands the mentality of the Far Eastern aborigines, and who deals with their problems in the best way.

NATIVES, STATE TRUSTS AND FORCED LABOUR

In addition to the Party and the territorial administration, there is a third influential factor in the Far East which has a great impact on the 'natives', namely the big State capitalist organizations of Kamchatka, Chukotka and the territories around the Okhotsk Sea. Instead of assisting and strengthening native economy the Soviet régime encouraged the growth of State companies such as the 'Kamchatka Limited Company' (later known as 'Glavkamchatrybprom' – Kamchatka Chief Administration for the Fishing Industry), the 'State Reindeer Trust', the 'Dalrybtrest' (Far Eastern Fishing Trust) and 'Soyuzpushnina', the State organization for fur trading. Soviet experts on the Far East themselves have admitted that these enterprises employed people who were guided by a 'narrow-minded business attitude' and who discharged their duties in a 'crudely materialistic way'. All they wanted was to fulfil the target figures of the state plan. They were not interested in assisting the natives either by supplying the most essential food commodities or by encouraging cultural work. The enterprises concerned, in particular the Kamchatka Company and the Reindeer Trust, seized land, and hunting and fishing grounds traditionally belonging to the natives. Even land owned by newly established collective farms of reindeer-breeders was arbitrarily confiscated by State trusts.[5]

Another State enterprise, the previously mentioned 'Dalstroy', which operates around the Okhotsk Sea, has also greatly affected the life of the 'natives' who live in its territory. The first director of Dalstroy, E. Berzin, pointed out in 1936 that the trust had opened schools and hospitals in all centres of the native population. The budget of the native communities ('National Districts') had increased almost ten times during five years.[6] What Berzin did not say was that the native schools and hospitals had been built with the profits which Dalstroy had made by exploiting forced labour. As a matter of fact, some of the schools of which Berzin boasted are 'mixed schools', which are attended both by natives and by children of convicts who were born in captivity and taken away from their mothers.[7] In the area controlled by the Dalstroy we thus meet the most sinister aspect of the 'Soviet nationalities policy', namely, its

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

4: U. S. Army G-4 (no date) 1956 RR1 Siberia RR1

HEADQUARTERS
UNITED STATES ARMY FORCES, FAR EAST
AND EIGHTH UNITED STATES ARMY (REAR)
Office of the Psychological Warfare Officer
APO 343

ANALYSIS #070156

Mlynarchik/hy/266-2755
18 January 1956

000 USSR: MAGADAN, CAPITAL OF THE KOLYMA GOLD EMPIRE

Part I: The Rise of Magadan (1927-1946)

1) Introduction
2) Physical Features of Kolyma
3) Administration
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5) Development of the Kolyma Area (1927-1931)
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   d. The Regime of Nishikov (1941-present?)
7) The Kolyma Buildup (1932-1946)
8) The City of Magadan
9) Summation

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Part I. The Rise of Magadan (1927-1946)

316 466 1) Introduction: Until the early 1930's the Kolyma region in the northeastern section of Siberia was practically deserted; the only population consisted of several native tribes who were engaged primarily in reindeer breeding. Approximately 175 independent miners were also in the area for the purpose of extracting gold from the rich fields around the Kolyma River; however, in 1931 the Soviet Government, at that time completely lacking gold reserves, began one of its largest enterprises until that time--the exploitation of Kolyma gold on an increasing scale. Labor was primarily prisoners, both criminal and "counter-revolutionary," who were sent to the Magadan area by the hundreds of thousands yearly in an attempt to build the area into a self-sufficient region with only one mission--ship every available ounce of gold to Moscow.

115 121 The information contained in this report is primarily derived from published reports made by prisoners who have returned from the Kolyma area after having served their prison terms as forced laborers. Although admittedly this report is historical in nature rather than a concise evaluation of the present situation, it was considered appropriate, due to a lack of general information and knowledge of the area, to present

however, the MVD appoints the head of Dalstroy, leaving to him the selection of his assistants. Authority is held and exercised solely by Dalstroy, and everybody who represents this authority is appointed by the head of the organization or his assistants acting as his agents. Every inhabited place has a "commandant" who has authority over the territory under his control. Under Dalstroy rules this commandant has the right to inflict the death penalty on all prisoners. 625 642

A somewhat different status is accorded to the remnants of the native tribes which form so-called "national districts." They enjoy various privileges and are given assistance by the Soviet Government; however, it should be noted that these privileges and assistance can be considered as such only in comparison with the position of the prisoners. These local tribes number only a few thousand, and even in their national districts they have no real authority to govern themselves. [563]

4) Population: The population of the region[1] is not accurately known, primarily due to the continual turnover of prisoners who are imported by the hundreds of thousands yearly and who die at almost the same rate. Before the discovery of gold and the creation of Dalstroy, the local population could hardly have exceeded 25,000 to 30,000; according to the census of 1926-1927 the population of the Kolyma region was 7,580. It is very unlikely that the number of aborigines has materially increased under the rule of Dalstroy; in fact, during the first period of the Revolution the native population showed a marked tendency to decrease. 161

However, the total population of the Kolyma region during the Dalstroy administration has grown fantastically, and the only explanation is the importation of prisoner labor. The exact number of prisoners cannot be determined for obvious reasons; however, according to a report by a Soviet seaman who formerly served on ships running between Vladivostok and Magadan the entire Kolyma region is 505 466

> "a single concentration camp. Into it have been thrown huge masses of the repressed. How many of them he cannot say exactly.... In his opinion it may be calculated with considerable accuracy that during the years 1937 to 1940 not less than a million and a half persons were brought on steamers from Vladivostok to Magadan; during each navigation season from April to November four Dalstroy steamers (Felix Dzherzhinskiy, Dalstroy, Soviatsia, and Dzhurma) were in operation, each making from 12 to 15 voyages in the course of the summer and bringing from 6,000 to 9,000 persons on each voyage."[1]

(Note: Radio Magadan in a report on 24 October 1955 stated that "Nagayevo port vessels -/Nagayevo is the port servicing Magadan/- have fulfilled their annual cargo delivery plan 105.8%...the seagoing vessels of the Nagayevo maritime port overfulfilled their 8 month cargo delivery plan but failed to fulfill their 9 month plan. The leading place among seagoing vessels is being held by the steamship 'Felix Dzherzhinskiy.' Good results were also achieved by the steamship 'Dzhurma' which is on its way from Nakhodka to the Kresta Bay carrying vegetables, foodstuffs, manufactured goods, fruits, construction and technical materials, and equipment." The interesting feature of this report is the fact that the steamships "Felix Dzherzhinskiy" and "Dzhurma" which were definitely known to be transporting laborers in 1940 are still plying the same route and very likely are carrying the same "freight" because the hulls of these two ships are known to be constructed to carry prisoners, not freight as stated.)

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1 Dallin, David J., Forced Labor in Soviet Russia (New Haven, Yale University Press, 1947), pp. 136-137 [i.e., Kolyma - ANALYST]

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466 According to other sources the number of ships in Dalstroy service is higher than the four ships cited above; it has been positively stated that in 1940-1941 five more steamers (Minsk, Kiev, Igarka, Komsomol, and Uritsky) and the icebreaker, "Sakhalin," were in operation with a total shipping capacity of 35,000 passengers. (Note: Local Soviet Far Eastern radio stations which service areas with shipping administrations have been noted to make reference to the Uritsky, and in the course of the past six months a vessel named "Komsomolsk" may be the ship "Komsomol," as included in the ships carrying slave labor. This possible identification is noted because monitoring of local Soviet Far Eastern radio stations has always been plagued with the difficulty of "making out" names of persons, ships, and the like."

It goes without saying that prisoners were also shipped into Kolyma by the northern route--the run from Archangel east through the Arctic Ocean. This route was attempted because during the 1930's Soviet ships carrying slave laborers on the run from Vladivostok to Magadan passed through the Sea of Japan and the Tatar Strait, both of which were constantly filled with Japanese vessels; for obvious reasons, the Russians were not too eager to have the Fascist Japanese circles learn of this Soviet cargo. However, due to the extreme difficulties of navigation along the northern route, successes were few; instances of ships carrying laborers being caught in the ice with no survivors were not few. In summation, even if the northern route is discounted, the importation of 400,000 to 500,000 laborers annually is not impossible.

161 Recent estimates of the total population[1] of the area have ranged between 300,000 and 1,000,000; however, inspite of the fantastic death rate among prisoners, millions have been imported as laborers, and there is reason to believe that there is approximately between one and one and a half million people in the area.

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655 5) Development of the Kolyma Area (1927-1931): Commercial gold mining really began in the Kolyma fields in 1927, and at first the entire production was in the hands of free agents who ventured into the area. "In 1929, according to official Soviet statements, gold was being panned in three fields,.... There were altogether 65 prospectors working in the three fields, and a total of 108 men living in the adjoining settlements."[2] According to Soviet law at that time, all gold was to be delivered to the government trust, Soyuz-Zoloto (Union Gold); however, no branch of this trust was closer to the Kolyma gold fields than that office in Okhotsk, which was still more than 1,000 miles from the fields. Furthermore, private gold buyers were willing to pay a higher price for gold than was the government which was attempting to keep gold prices on a level with the rising prices of commodities. This situation had the result that a large "black market" in gold arose, and much of the gold, according to Soviet officials, went into the hands of the Japanese, whose fishing boats were almost omnipresent in the Sea of Okhotsk. These fishing boats brought merchandise to sell in the gold fields, and this can be substantiated by the fact that much of the goods in the Magadan area at that time bore Japanese labels.

The Soviet Government found itself faced with two possible solutions to the problem: either it could permit free-lance gold prospecting as had been the case in California and Alaska, or it could invest a large amount of money into the area in an attempt to build up its own resources for extracting the gold. The first measure was hardly feasible, especially by a government whose basic principle was opposition to free enterprise, and the second possibility was practically impossible because the Soviet Union at that time had no money to invest. It was in this manner that the Soviet Government decided to invest its only and largest asset at that time--people. However, since few volunteers were

[1] [the Kolyma region--Analyst]

[2] Ibid., p. 113.

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willing to venture into such an inhospitable area, prisoner labor was considered to be the only solution whereby sufficient numbers of personnel would be available in Kolyma to exploit the gold resources there. It was at this time that the collectivization program was in progress in the Soviet Union, and labor was to be found in abundance in the form of those sturdy peasants, especially in the Ukraine and White Russia, who opposed the confiscation of their land into collectivized enterprises. Furthermore, previous attempts at the use of prisoner labor had been satisfactory in the construction of the Baltic-White Sea Canal. Consequently, it was decided to move large numbers of "socially hostile elements," as they were called, into the Magadan area to exploit the gold fields.

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6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932: In the winter of 1931-1932 a special administrative unit was established under the name of Dalstroy, and this organization was responsible for the development of the extreme northeastern part of Siberia—the primary task was the exploitation of the gold-rich Kolyma region. It should be noted that Dalstroy was under the direct control of the GPU (later reorganized into the NKVD and again into the MVD), which immediately undertook to supply the organization with huge numbers of laborers. It might be mentioned that Dalstroy had "first pick" of all the prisoners throughout the Soviet Union; simultaneously Dalstroy procured adequate numbers of free-labor specialists, namely, engineers of all types who were to organize the actual exploitation of gold.

a. The Leadership of Berzin (1932-1937): Berzin was the head of Dalstroy during the years 1932-1937, and since he was the very first of the NKVD chiefs of the organization, his administration was filled with a terrible loss of life; this was not permitted to interfere with his mission, however.

After a preliminary examination of the situation, it was decided to establish a port on the Sea of Okhotsk and penetrate gradually inland rather than to use an overland route. The harbor of Nagayev, located close to the Ola River estuary, was selected as the primary base of operations; this harbor is at present the port which services the chief city of Magadan. (Note: This harbor is approximately 10 miles long and 3 miles wide.) In order to show the complete uninhabitability of the surrounding area near Nagayevo, the port area has been described as "surrounded by ridges of rock which overhang the water. The rocks, sometimes rising a thousand feet or more, protect the harbor, but on their open sides the winds blow unchecked. Down below where the steep cliffs meet the water, there is no land for human shelter. Above, one is blown off one's feet by the force of the wind that is cold, damp, penetrating, and unequalled in ferocity anywhere in the world."[3] Beyond the ridges surrounding the harbor there is a swamp of the type familiar to this region, under which perennial ice exists; beyond the swamps come the taiga.

In the summer of 1932 ships were dispatched from Vladivostok loaded with Dalstroy cargo, including machinery, equipment, foodstuffs, and manpower. The steamers were gifts to the NKVD by the Soviet Government, and each ship made from 12 to 15 voyages from Vladivostok that navigation season. These ships were specially constructed to hold large numbers of prisoners, and machine-guns covered every inch of the cells. No precautions were neglected to prevent the escape of prisoners in the areas where Japanese ships might rescue escapees and learn the nature of the Magadan enterprise.

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3 Ibid., p. 117.

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•466 Upon arrival in Nagayevo harbor, tents were provided for the guards, while prisoners remained unsheltered in barbed-wire enclosures. The official task was to build the port and a city, which was to become Magadan. In order to give a clear picture of the actual difficulty of the operation, the following citation is quoted in full:

> "The prisoners bore the hardships and built. With bare hands they constructed piers for ocean steamers, setting up caissons weighing many tons under the steep cliffs where the sea was 12 to 15 feet deep at the water's edge. They cut broad roads through the stone, leading down to the piers. They built, in order of importance, several plants: a sawmill, a brickyard, a fish-salting factory, ship repair yards, a power station. They began draining the swamp and clearing the taiga adjacent to the spot selected for the future town, felling and uprooting trees, pulling up moss by hand, and harrowing the soil over and over to create a semblance of cultivable top soil as a measure of defense against the encroaching geological ice. They built houses for the administrative staff, which included private houses for the officials and their hired servants; for the GPU they built 'cold-resistant' barracks with double walls filled in with sawdust; they built a special small house for the police dogs which were later to play such an important role in the Kolyma penal camps. There was time and labor for everything except for building barracks for the enslaved workers themselves."[4]

At first there were no established work hours; prisoners "were compelled to work as long as they could stand on their feet; they were required to show 'enthusiasm.' The food was meager—bread, dried fish, sometimes hot soup, and twice a day a mug of hot water."[5] In addition, the fact that workers were continually wet from working in swamps or the construction of the port led to epidemics, and the death rate rose at an incredible rate; disease ultimately spread to the NKVD guards and the hired technical personnel. It was this factor which led to the decision to build barracks for the laborers. These barracks were built with only single boards for the walls, and contained only iron stoves for heat in a climate where -60 degrees in winter is common and where -90 degrees has been recorded. The prisoners were informed that these barracks were only temporary, but in 1946 these very same barracks were still in use.

Every week steamers continued to unload masses of prisoners in Nagayev harbor. These prisoners were all "long-timers" who were chosen because of their physical fitness—most were Siberian farmers, Don and Kuban Cossacks, and Ukrainian and White Russian peasants. It goes without saying that these people were selected from opponents of the collectivization program which had been completed just prior. It would have been a complete waste of time to transport any other than the above mentioned healthy people because experience was to show that only the physically strong were able to exist in Kolyma, and even many of these died within two years.

All of the above activity culminated in the erection of the present city of Magadan; however, Magadan was only to be the base of operation for the actual purpose of the administration, and the gold was in the northern areas in the interior. At this stage laborers were sent into the desolate inner regions with the mission of building roads from the gold fields to the port city; this highway was to extend from

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4 Ibid., pp. 119-120.
5 Ibid., p. 121.

Magadan to Srednikan, and then on to Seimchan. The distance by air was some 200 miles and it was planned to open this road by 1934. The project was begun in the autumn of 1932, but winter set in early, and reliable accounts have claimed that 635 466

> "Blinding snowstorms raged for weeks on end. At times, even in Magadan, walking from one house to another was almost impossible. On several occasions communication with the taiga was completely cut off, and no food could be sent to the inland camps. Since the supplies the prisoners could take with them on leaving Magadan were extremely small, famine would set in.... In addition, in the absence of barracks men had to live in tents or, more often, in brushwood huts, with the temperature at -60. In spite of the insufferable cold, the prisoners went on with their work. Even under normal taiga conditions prisoners died by the hundreds and thousands, and nearly everybody had frostbitten hands and feet. What went on in some of the winter camps must have remained a mystery to the authorities, since in some no living beings were left--neither prisoners nor guards, or even dogs. One of the valleys of the region, the Shaivinski, has since been called 'the Valley of Death.' ...a party of prisoners numbering several thousand, together with the entire convoy of guards, lost their way in the blizzard and died to a man. It used to be said in Magadan that of all those who were 'thrown' into the taiga in the first heroic year of Dalstroy, only one out of 50 to 100 came back."[6]

The Magadan-Seimchan highway proved to require more than the planned two years, and the work was not completed until 1937. In return for this accomplishment, Dalstroy and Berzin were expecting to receive generous rewards. However, upon his arrival in Moscow Berzin was caught in the vast purges of that year and was executed, having been charged with "having ties with capitalist countries, of selling gold to foreign countries, of surrounding himself with confessed or secret 'Trotskyites' as well as other oppositionists, and of planning a coup d'etat in the region and seizing all power so that he could secede from the USSR and join the United States or perhaps Japan."[7]

b. Violence under Garanin (1937-1938): The years 1937 and 1938 resulted in the purges of countless "oppositionists," and Magadan had a large turnover in personnel; many of the NKVD personnel were purged, and a new administration was ushered in with the appointment of Garanin to lead Dalstroy. 635 466 625

At this stage the population of Kolyma increased tremendously; about 100,000 prisoners were brought in annually. Most of these new prisoners were "counterrevolutionary elements"--people who had not done physical labor previously, such as scientists, artists, politicians, educators, leaders of industry, trade, among others. In 1938 the purge struck the prisoners in Kolyma when "Garanin undertook to liquidate thousands of intellectuals. Henceforth there was no more fur clothing for the prisoners. The standard equipment became wadded jackets and trousers which soon hung like torn rags.... The felt boots were replaced by shoes made of canvas.... The wretched rations of the prisoners were deficient in fats; the major component was bread."[8] However, the quantity of bread allotted to each prisoner was determined by the amount of work

6 Ibid., p. 135.
7 Ibid., p. 131.
8 Lipper, Elinor, Eleven Years in Soviet Prison Camps (Chicago, Henry Regnery, 1951), p. 105.

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he did in accordance with the norm; since norms were set very high even for healthy peasants from the farms, intellectuals invariably failed to meet their quotas. Garanin frequently made trips throughout the various camps, seeking those who had not fulfilled their quotas--these were then shot. "This was still not enough. At night he would have thousands of enemies of the people taken out of all the Kolyma camps...and driven off to prison. This prison called Serpantinka is about 375 miles west of Magadan, in the midst of the forest, and it is probably one of the most ghastly institutions in the Soviet Union.... It was estimated that Garanin had the deaths of some 26,000 persons on his conscience.... He was finally recalled (1938)."[9]

c. Blundering of Vyshnyevetsky (1938-1941): After the arrival of Vyshnyevetsky "no change was made in the treatment, clothing, or food of the prisoners. But the summary trials and shootings of prisoners without trial ceased. The mortality among the miners remained at a constant 30%."[10] The cause of the downfall of the new head of Dalstroy was the expedition to Pyostraya Dresva Bay. In the spring of 1940 a ship was sent to that area with several thousand prisoners and some 800 free citizens on board to exploit the precious metals found to exist in that area. Inasmuch as the ship left so late, Vyshnyevetsky was warned of a possible disaster when the ice jams formed. Prisoners were shipped wearing only summer clothing and with thin shoes. At the destination prisoners began work on the construction of camps in which they were to be imprisoned. However, a hurricane destroyed all the efforts at the construction sites, and the following spring the remnants of the expedition returned to Magadan: 200 free men and 150 prisoners. Not one of the men who returned did not suffer from frostbite, and eyewitnesses in the hospital at that time claim that the survivors, to the last man, were either amputees or insane. For this enterprise Vyshnyevetsky was recalled to Moscow where he was sentenced to 15 years imprisonment; his arrest was due to the fact that 600 free men had perished in the futile effort, but no reference was ever made to the thousands of prisoners who also perished.

d. The Regime of Nishikov (1941-present?): The new chief of Dalstroy was Lieutenant General Ivan F. Nishikov, who according to the latest reports still is in command; whether the execution of his superior, Beria, affected his status is not known. According to Elinor Lipper in her book "Eleven Years in Soviet Prison Camps," the authoress, who was imprisoned in various Kolyma prison camps from 1938 to 1946, states that:

> "he is icily, mercilessly cruel. By cruelty he pushed through the fulfillment and overfulfillment of the gold plan; by cruelty he won decorations and large money bonuses. In 1942 at the age of fifty, he divorced his first wife.... He placed her and her grown son, who was a state's attorney in Magadan, aboard a ship headed for Vladivostok, and married a young communist girl of 29 named Gridassova, a primitive, crude, avaricious creature, who is only too well known to myself and to other female prisoners, for she functioned as the harsh commander of the Magadan women's camp. Thanks to her husband's position she has risen in the military hierarchy and has been decorated. She is the head of Maglag, the camp district of Magadan and the surrounding region, and rules the lives of tens of thousand of prisoners.
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> The couple's country house is located on the highway forty-five miles northwest of Magadan. It is furnished and equipped in the greatest comfort and is surrounded

9 Ibid., pp. 106-107.
10 Ibid., p. 108.

by Nishikov's private hunting preserve. Near by, the prisoners of the invalid camp called 'Seventy-second Kilometer' work in a glass factory which is under the special protection of Gridassova and consequently always registers a marvelous production record. During the War burnt-out electric bulbs were repaired there, since new bulbs were almost unobtainable and even tiny bulbs were sold at a hundred and fifty rubles."[11]

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7) The Kolyma Buildup (1932-1946): As has been indicated earlier, Magadan and the entire Kolyma area were almost uninhabited in 1932 when the expedition under Berzin reached Nagayevo port; however, although at a fantastic cost in human lives, remarkable development of the Kolyma area was made. As early as 1946 it was clearly known that Dalstroy's extensive and many-sided activities were coordinated in a system of administrative organizations, each of which deals with a specific section of the region's economy—the centers of all these organizations are located in Magadan. At that time the following were known to exist: administrations of supplies, fish industry, coal, wood manufacturing industry, road building, agriculture, motor transport, and a few others. Essentially these administrations have the same task—they must insure uninterrupted operation and success in the chief industry of the region—gold mining, and with this ultimate goal in mind, they must supply all necessary materials and products. The ideal situation, as desired by Dalstroy and no doubt by Moscow as well, seems to be for Magadan to be completely self-sufficient and to turn over to the state all gold mined. As far as the fishing industry is concerned, it is known that fish is exported from Kolyma to Vladivostok. Attempts have been made to extract oil locally to supply motor transport in the region; however, there has been little success in this project although the presence of oil deposits in the area has been definitely established.

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Road construction was one of the primary tasks upon the initial efforts in Kolyma; just before World War II, another spurt in road building occurred. In 1939 the administration of road building was split into two independent organizations, one for the south and one for the north. By that time, the trunk highway from Magadan to Seimchan was being extended in the direction of the newer gold fields on the upper Indigirka River, and a number of side roads were also constructed to connect the main gold fields on the upper Kolyma River with the highway. Altogether, according to the best estimates, there were approximately 901 kilometers of paved roads in actual use at that time. However, this was inadequate, and in 1939-1940 a new plan of extensive road building was drawn up covering the construction of new roads in the extreme north, at the Kolyma estuary, and in the south, on the upper Kolyma, in the so-called "old" gold mining districts. In addition to new tributary roads, work was started in 1939 on the construction of a second motor highway from Dresvn Bay on the Sea of Okhotsk to the gold-mining territory on the upper Kolyma. Even far more reaching were the plans for road construction east of the Kolyma estuary, in the tundra of the Arctic coastal region, down to the Bering Strait, where geological exploration had discovered gold fields of exception richness, perhaps exceeding those of the upper Kolyma. There have been no exact data concerning these plans; understandably, the information coming from the deep interior of the Kolyma region is generally far more scant than that coming from Magadan. However, at the beginning of the Russo-German War in 1941, all these plans for road construction were curtailed for obvious reasons. As has been indicated earlier, practically all construction activities were halted and many short-term prisoners were even sent back to European Russia where they served actively in the defense of the Soviet Union. In connection with the construction of roads just prior to the German

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11 Ibid., pp. 110-111.

491 invasion, it should be mentioned that the history of the Nagayev harbor development, as cited previously, was again repeated.

316 The actual gold mining operations were controlled by a special gold mining trust within the Dalstroy organization. In 1939-1940 this trust was composed of seven administrative agencies, each in control of its own area. These agencies were

1) The Southern Mining Administration, which had jurisdiction over sixteen gold fields, including the principal fields of Srednikan, Boriskin, and others;

2) The Northern Mining Administration, which was in charge of twelve fields;

3) The Western Mining Administration, which controlled twelve fields;

4) The Southwestern Mining Administration, with eight fields under its jurisdiction;

5) The Northwestern Mining Administration, with six fields under its control;

6) The Chai-Urinsk Mining Administration, with eight fields therein; and

7) The Tepkino-Detrinsk Mining Administration, with four fields. However, it should be noted that, although these seven agencies controlled and directed the activities of 66 gold fields, some of them are spread over such large areas that they should be called groups of adjacent gold fields. Furthermore, it should be borne in mind that the fields east of the Kolyma estuary, which in 1940 were only beginning to be exploited, have not been included in the above tabulation. Information in this respect is nil.

466 The total number of prisoners who work these gold areas[1] is not known; however, according to estimates by prisoners who have managed to return after having served their terms and fled to the west, the normal number of prisoners at each field varies between 5,000 and 10,000 workers. The number reaches its highest peak in May or June of each year: the mining season begins in June at which time new groups of prisoners are arriving at Magadan from Vladivostok. However, by the end of the mining season, the total figure has again decreased due to the heavy death toll; this has been corroborated by Polish prisoners who worked in the Kolyma gold areas after the Soviet-German division of Poland. These same Polish army troops mentioned a camp on the Chukotsk Peninsula, where some 3,000 Polish troops were sent in August 1940. However, all 3,000 died while working in the lead mines, not only due to the usual bad conditions but also due to lead poisoning. Therefore, assuming that the number of prisoner-workers per field averages some 5,000 persons, there is reason to believe that there were at least 330,000 prisoners engaged in gold mining activities in Kolyma. Of course, this figure represents only an estimate for the known gold fields; however, it should be remembered that this total will be swelled by the numbers of women prisoners who are engaged in various other activities like agriculture, lumbering, among others. (Note: No reference has ever been noted where women prisoners have been utilized in the gold fields.) Furthermore, since vast new areas have been in the process of exploitation, including the construction of roads, it goes without saying that additional large number of prisoners are utilized for this purpose; also, there are other mining areas, such as those east of the Kolyma, whereat no doubt large numbers of prisoners are also engaged. Consequently, although no exact figures

[1] [i.e., the Kolyma region, Siberia -- Analyst]

are known regarding the total prisoner population, one thing is certain and that is that the entire Magadan enterprise is on a very large scale and that prisoners form the greatest majority of workers. Due to the fact that three known prisoner ships which were operating in 1940, the "Felix Dzherzhinskiy," "Uritsky," and "Dzhurma," are still plying the same Vladivostok-Magadan route, it is a reasonable assumption that the prisoner traffic is continuing. (Note: It is difficult to assume that these ships have changed the nature of their cargo inasmuch as it is definitely known that the holds of these ships were constructed in a special manner to transport large numbers of prisoners; although it is admittedly possible to change the internal structure of these three ships, it is dubious that this has been done, because it is known from reports from Radio Magadan that activities are being expanded throughout the Kolyma economy. Since the death rate has been so high in the past among prisoners, it is difficult to see how further development of the region could be undertaken without importing further number of prisoners every year.)

8) The City of Magadan: One of the results of Berzin's administration was the construction of the city of Magadan; by 1941 the population of this city had been estimated at approximately 70,000, composed of MVD officials and hired specialists who volunteered for service under the Dalstroy administration. It was further estimated that at that time there were some 50,000 such specialists scattered throughout the region. Another section of the population in the Magadan area, numbering a few thousands, was represented by exiles, mostly highly qualified experts whose work in Dalstroy had entitled them to some special privileges, although they are still subject to the MVD. Outside of the city of Magadan there were several big camps for prisoners with fluctuating populations.

The central streets of the city were lined with two- and three story houses. Electricity was provided by a power station which also supplied electricity to the taiga areas by means of wires strung over the surrounding mountain ridges.

The population of Magadan faced a problem in the procurement of foodstuffs. In an effort to relieve this situation, "Magadan has a large experimental farm equipped with hothouses. The latter already (1941) grew 'Kolyma' apples, pears, peaches, and even oranges, not to mention a variety of berries, while all kinds of vegetables are developed in the hotbeds, including cucumbers, cabbage, eggplant, muskmelon, and watermelon."[12] The chief problem in the attempts at agriculture was the geological ice. Repeated deep plowing of the soil, the use of fertilizer in great quantities, and similar measures have been used in scientific experiments and have achieved good results. Thus, in some places the ice formerly came to within one to two feet from the surface of the ground, but it has been pushed down to six or eight feet, which has made possible the cultivation of cereals. (Note: Agriculture in Magadan and the entire Kolyma region will be treated in a subsequent report.)

9) Summation: The entire Kolyma region is growing in importance constantly, and due to the produce obtained from this area, in addition to the increasing population, Magadan and the hinterland cannot be ignored or treated lightly. There are two general aspects of the Kolyma region which should be noted:

1) In the New York Times of 9 January 1946, it was reported that there is total gold supply in Moscow of between the wide range of two and ten billion dollars. The interesting aspect of this surmise is the fact that in 1925 or even in 1930 the Soviet government was forced to sell the treasures of Russian museums in order to pay for machinery that it had purchased abroad. Soviet gold has made its appearance only

12 Dallin, op. cit., p. 133.

115 a survey of the development and buildup of the Magadan-Kolyma area with
121 the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

[131] 2) Physical Features of Kolyma: Kolyma is that region in the
631 northeastern part of Siberia, named for the Kolyma River; the boundaries have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 Be that as it may, there is ample evidence to support the contention
631 that neither of the two above cited political divisions are technically correct; due to the establishment of Dalstroy (Far Eastern
●471 Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 3) Administration: The Constitution of the USSR is not formally
625 operative throughout this vast area[1] (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

[1] [i.e., the Kolyma region of Siberia — Ed. by SC]

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

Soviet officials failed to understand that the reindeer plays a vital part in the life of the Northern tribesmen, and that it is not a mere subsidiary to their economy as is the cow of the Russian peasants. According to the tribal customs of the Koryaks and Chukchi it is a sin to sell a living reindeer. The Soviet administrators denounced this custom as sabotage, and imposed on the reindeer-breeders not only compulsory sales, but also the confiscation measures which accompany collectivization. The setting up of collective farms and state farms in the native territories of the Arctic regions of the Soviet Far East, led in the 'thirties' to the unleashing of a violent class struggle which, in turn, resulted in a drastic drop in the number of reindeer. Not only did the rich reindeer breeders engage in large scale 'predatory slaughter' of the animals, but they also hampered the collectivization and nationalization measures in other ways. To escape 'de-kulakization', they split their large herds into smaller ones, and distributed them among their shepherds. Moreover pastureland was wilfully destroyed, apparently on a considerable scale.

Loss of reindeer occurred not only in the private but also in the State-controlled sector. The new State farms which were to introduce higher forms of reindeer breeding were, in reality, far more inefficient than the individual reindeer breeding nomad. In the Far East the State reindeer farms lost one-third of their herds within a single year – a catastrophe which could not be attributed entirely to the infiltration of class-alien elements.

Official Soviet statistics about the development of Soviet Russia's reindeer population demonstrate convincingly what damage the collectivization measures caused. In the first years of the communist régime when state interference with the Far Northern economy was slight there was a clear upward trend. The number of reindeer in the entire Soviet Union increased from 1,765,000 in 1923 to 2,193,000 in 1926–27 and to 2,700,000 in 1931. The year 1931 was the turning point. In 1932 the stock fell to 2,333,000, in 1933 to 2,030,000 and in 1934 it was as low as 1,889,000. These figures which apply to Soviet Russia as a whole do not fully reveal the catastrophic consequences of communist reindeer policy in the Far East. In the Koryak National Area, for instance, where full collectivization had been planned for 1933, the number of reindeer decreased from 264,000 in 1926 to 173,000 in 1932 and 127,000 in 1934.[12]

Soviet statistical evidence about Russia's reindeer population after 1934 is contradictory. Figures produced by various official Soviet sources show a large margin of difference. The *Small Soviet Encyclopedia* says that on January 1st, 1938, the number of reindeer was 1,766,000.[13] This would mean that the situation was then even worse than in 1933. On the other hand, a Soviet standard work on Russian reindeer-breeding published in the post-war period claims that the number of reindeer in 1938 was 28 per cent higher than in 1933. But even this book which

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

233 474 gives an optimistic picture of the Russian reindeer situation states that a new period of decline set in during the war owing to the increased slaughter for the army and inferior care of the herds resulting from the mobilization of many native herdsmen.[14] After the war the position improved but whether and when the peak figure of 1931 was reached again, is impossible to say. Such increases in the number of reindeer as there were, were brought about, it seems, by a more liberal application of the collective farm statute. Collective farm members were encouraged to own small reindeer herds privately. The maximum size of these privately owned herds is not known but cases have been mentioned of individual collective farmers having as many as 80, 90, 130, and even up to 200 reindeer each.[15]

233 874 The reindeer problem has caused difficulties to Soviet administrators not only in the purely economic sphere but also in the field of education. What is needed in the Far North is a school which would help to raise hunting and reindeer breeding to a higher level. The more enlightened Russian pedagogues are the first to admit that such a school does not exist. One of the school inspectors posted to Northern Siberia quoted, not without a certain measure of approval, a reindeer breeder who refused for a long time to entrust his two sons to a Soviet boarding school. The father in question said that he taught his children to hunt game, to catch the polar fox and to ride reindeer. In school, he added, they would not learn all this, and when they had finished they would have no practical knowledge. An article in the *Teachers' Gazette* stated that there was a 'grain of truth' in the complaint of the old reindeer breeder. 'The school is indeed too much cut off from practice and thus not able to prepare children for the life in the Far North.'[16] A similar problem, it is true, also exists in other countries. Richard Finnie, in his book *Canada moves North*, says that Eskimo children, after spending years in boarding schools, return to their families unfitted for the lives they must lead.[17]

THE CULTURAL REVOLUTION

212 871 171 Whatever the quality of school education in the Russian Far North may be, it is a fact that the Soviet authorities have carried out a big cultural revolution in the native territories. The most important part of it has been the liquidation of illiteracy. Until 1931 the Far Northern and Far Eastern peoples could express themselves in writing only in the form of drawings or through the medium of the Russian language. In May, 1931, they received an alphabet of their own, the 'Unified Northern Alphabet' as it was called. It was officially approved by the Ministry of Education of the R.S.F.S.R. The 'Unified Northern Alphabet' was a Latin alphabet and the decision to adopt it was not taken without a long struggle fought out behind the scenes between the supporters of latiniza-

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

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Here in 1950 a Melioration Machine Station was erected, the first in the Krai, which is to be followed by seven others. Of great significance is the development of agriculture on the Kamchatka Peninsula. Before World War I, according to Soviet figures, the area under cultivation was 4 hectares; in 1938 it was 2,778 hectares. Since then it has further increased. In 1950 there were more than 10 kolkhoz. In 1952 a scientific expedition was sent out from Khabarovsk to Kamchatka to investigate and to prepare for the gaining of additional land for agriculture. In the same year two Melioration Machine Stations were erected, which in the next three years made nearly 40,000 hectares of swamp and taiga country available for agriculture. From Sakhalin, too, successes in the winning of new land were reported. Prominent is the fact that also the native population (Gilyak in the "Chir Unvd" Kolkhoz, i.e., "New Life Kolkhoz") has been used with success in agriculture. How quickly the agricultural occupation of southern Sakhalin has been carried out is indicated by two reports: in 1949 there were 33 kolkhoz there and 3 sovkhoz, and in 1950 there were already 69 collective farms.

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The progressive mechanization and technicalization of agriculture constitutes a second important part of the content of the more recent reports. The number of Machine Tractor Stations (MTS) has increased in all regions. In the Buryat Mongol ASSR their number increased from 25 in 1937 to 36 in 1948; in Khabarovsk Krai they almost doubled in number from 1938 to 1947, when they numbered 76. In 1948, 25 Grass Mowing Machine Divisions were installed in the Buryat Mongol ASSR; and from 50,000 hectares of meadowland these Divisions were supposed to supply winter hay for the great kolkhoz, since the manual work force was not sufficient. In the Buryat Mongol ASSR the first agrarian city in the Soviet Far East was also established in 1950, and for this 400 two-story dwellings and 30 one-family houses were constructed. Remarkable, too, are the reports that special mowing threshers were used in harvesting the soy beans and the rice.

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Among the plants whose cultivation has been especially fostered, soy beans and rice stand in first place. In 1949 there were 16,000 more tons of soy beans harvested than in 1948. With rice cultivation, on the other hand, progress seems to be made only slowly. In 1937 in the Far East 36,400 hectares were cultivated with rice, and, according to the last Five Year Plan, the area is to be increased to 37,000 hectares by 1950; this is very modest considering the fact that in 1913 there were 57,000 hectares of rice fields. Great attention is also devoted

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3. Khabarovsk Krai
5. Maritime Krai
6. Sakhalin Oblast

The two sketch maps inserted in the book show the old and the new administrative division. In the following presentation the old administrative units must be used as a rule in statistical information.

The new division of the administrative regions which has been made often during the period of Soviet rule, shows that the Soviet Far East is still not in its final from, neither as to population nor as to the development of its economy nor yet as to its administrative order; everything is in vital flux, everything is coming into being and becoming.

Unveiling and Occupation

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The conquest of Siberia, begun in 1581 by Yermak and his Cossacks, moved forward to the east very quickly, unhampered by the sparse population. It followed the great rivers, whose watery courses served the Cossacks both as a route and as a sign-post into the vast areas never before tresspassed upon by a European. River area after river area was thus transversed by them and secured by bases remaining there. Already by 1632 the city of Yakutsk was founded in the land of the Yakut on the middle Lena, and from then on this city served as a starting point for further pressure forward. In 1638 a Cossack division of Ataman Koplov proceeded along the Aldan and its tributary the Maya. They wanted to go to the "Great Sea," which the Tungus reported to them and which the Tungus called the "lamu," the "sea." However, they went only around 100 kilometers along the Maya and then had to stop for the winter. A smaller group under the leadership of the Cossack Moskvitin advanced farther along the way. They carried their boats from the upper Maya over the watershed of the Dzhugdzhur and reached the Ul'ya, which carried them on. In 1649 these Cossacks reached the coast of the Sea of Okhotsk, being the first Europeans to do so. At the mouth of the Ul'ya, somewhat south of present day Okhotsk, Mosvitin established a base and explored the coast to the north and south and /19/ /Map of the Soviet Far East as of 1953:/ /20/ went as far as the mouth of the Uda. However, he did not find the Shantar Islands. They were discovered only in 1710. Another Cossack by the name of Shelkovnikov founded

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the sea base Okhotsk at the mouth of the small river Okhota still in the same year of 1649; Okhotsk has for a long time served as the Russians' main harbor.

From Yakutsk northeastern Siberia was also opened up. In 1633 Rebrov and Perfiliev went down the Lena into the unknown distance and reached the Artic Ocean, which they followed along the coast to the east and discovered the mouth of the Yana. Ivan Yerastov, proceeding from the Yana, reached the Indigirka and the Alazeya in 1641. In the same year Stadukhin went farther to the east and came to the Kolyma, where he founded the base Nizhne-Kolymsk in 1644. He didn't go farther east, since ice blocked his way, so he turned back to Yakutsk in 1645. Stadukhin brought the first reliable reports on the Chukchee. In 1646 Ignatiev reached the Chaun Bay. In Stadukhin's division which pressed forward to the mouth of the Kolyma was Semion Dezhnev, whose name has endured in the history of the discovery of northeastern Siberia. Despite previous failures, this bold Cossack sea traveler again proceeded east from the mouth of the Kolyma with seven small boats. His goal was the mouth of a large river (the Anadyr'), which by hearsay was supposed to empty into the sea further to the east. In 1648 he sailed around the cape named after him and thus determined the northeastern end of the Asiatic continent. Thus Dezhnev was the first European to travel in the Bering Strait. Because of the thick fog he could not see the American coast on the other side of the strait, but he did report on two islands (Diomede Islands). Dezhnev must have gone very far to the south, for when he was stranded with his boats as a consequence of a storm, he had, according to his own report, to double back to the north, going by foot for ten weeks, in order to reach the mouth of the Anadyr'. The conjecture that Dezhnev eventually reached Kamchatka, cannot be discarded. It can be taken as certain the Popov, one of his companions, traveled around Kamchatka and in Penzhina Bay met other Russian sea travelers coming from Okhotsk. Thus the circle of the Russian opening-up of northeastern Siberia was closed along the coast, where the Dezhnev route and the Moskvitin direction met. Popov later traveled the Tigil' River on Kamchatka, where he died. His fellow travelers were killed in a disagreement with the natives. There are various documents from Dezhnev and his companions, and these documents report not only on the regions discovered but also on the inhabitants, the Chukchee, the Koryak, and the Eskimo.

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In 1647 Stadukin started out from Yakutsk again toward the Kolyma area, where he remained until 1649, and then he took up again /21/ his old plan of finding the Anadyr'. He knew nothing of the success of Dezhnev's trip. Restrained by his first failure in 1643-44, he selected the land route and this followed the direction which a scarcely known Cossack by the name of Motora had already taken before him. Stadukhin followed the Anyuy, probably the Lesser Anyuy, and with great difficulty crossed the watershed of the present Anadyr' Mountain, and also reached the river of the same name, which he followed to its mouth, where he met Dezhnev. But later he returned to the interior of the Anadyr' region and there founded a base, whose location is unknown. Stadukhin later appeared in Penzhina Bay. It cannot be determined whether he got there by the land or the sea route. His last known deed was the founding of a settlement on Tauyskaya Bay. To Stadukhin we owe the first reports on the interior of northeastern Siberia.

Although Kamchatka had already been touched by various Russians, Cossack leader Atlasov was the first to succeed in taking possession of the peninsula for Russia. In 1697 he was sent out as the commander to the Anadyr', and still in the same year he pressed in to the interior of Kamchatka and established a base in the center of the peninsula on the Kamchatka River. Atlasov was named the first Russian administrator of Kamchatka. Fights with the natives and also with his own Cossacks didn't make his work easy. In 1707 the Cossacks got angry and imprisoned Atlasov, whom they accused of misuse of his office and cruelty. In 1711 he is supposed to have been killed. From 1711 to 1718 there followed the discovery of the Kurils, in which Kosyrevskii in particular performed great service.

It is remarkable that Japan is never mentioned in the reports of the expedition leaders. Atlasov was the first to whom such a report goes back. Once he spoke of a Japanese who was driven onto the land by a shipwreck on the western coast of Kamchatka and who lived with the natives. In 1701 he was brought to Moscow by the Russians, and there he caused great commotion by his tales, and even Peter the Great occupied himself very much with getting a school built for him in which he was to teach Japanese language to a select group of Russian subjects. This school existed until 1739. Its pupils took part in the Bering expedition as interpreters. In another report Atlasov makes a remark that Japanese are supposed to have lived on the southern tip of Kamchatka. For the rest his reports are filled with

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descriptions of the land. Kamchatka's wealth in fish and valuable fur-bearing animals is given especial attention; among the latter the sable and the Kamchatka beaver, as the great sea otter was falsely named, are prominent. For this reason the Russians at that time also called the Bering Sea the Beaver Sea. Kosyrevskii, the /22/ discoverer of the Kurils, later met Japanese several times. His reports on Japan increased Peter the Great's interest in the Far East; he gave the order to conduct further exploratory trips and to secure the unoccupied land for Russia. Already by 1718 all the Kuril Islands were included in maps.

Among Dezhnev's successors the rumor appeared that farther to the east land was supposed to lie on the other side of the ocean. These rumors relied on the reports of the natives of the Chukchi Peninsula, who asserted that in winter that continent, which they designated as the "Great Land," could be reached over the ice. Atlasov called special attention to these reports, and he had the still unknown land drawn on his maps; but it was only Bering and Chirikov who reached Alaska for the first time in 1741 and took possession of it for Russia. A further advance of the Russians followed with the Aleutian Islands and the southern coast of Alaska serving as the guiding lines. In 1812 there were Russian settlers 40 miles outside of San Francisco and a base close to San Francisco. This was the most distant point which the Russians reached in their rapid and dashing settlement of the east. A backward movement followed. In 1867 Alaska, which at that time was considered valueless, was sold to the the United States for 7.2 million dollars, and with this Russia limited herself to the western side of the Pacific.

The movement of the Russians into the still unknown regions of the Far East occurred partly as a result of official orders; in this case the administrative offices in the hinterland carried out the formation and equipping of mostly very small expeditions and also chose the leaders; but in part this movement was the result of private undertakings. The voivode followed then in the tracks of both. The main goal of all expeditions was to take possession of the land through the establishment of bases and to insure the collection of the "yassak," a kind of head tax, which had to be paid by the natives in valuable furs. Also participating in the official expeditions were the private entrepreneurs, the "promyshlenniki," mostly fur traders and hunters, who distinguished themselves in the gouging of the natives no less than the official administrators. Thus it came about that the natives,

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who were shamelessly exploited, often turned against those moving in. Great battles took place with the Chukchee, Koryak, and Kamchadal, and these were decided in the Russians' favor because of their superior weapons. But again and again there were attacks on and murders of collectors of the "yassak." Only at the end of the eighteenth century did peace and order return to the land.

The occupation of Transbaykal and the Amur region did not keep pace with the advance of the Russians in the north; for in Transbaykal and the Amur region the Russians encountered a population which was by comparison more thickly settled and which already had a state /23/ organization. When the Cossacks in 1648 advanced from Irkutsk into Transbaykal, they were first attacked by the nomadic people, the Buryat, a Mongol tribe. Only step by step did they succeed in advancing to the Argun and getting a foothold there. Reconnaissance into and occupation of the Amur area was done, therefore, from the north, from Yakutsk, since the direct route from Lake Baykal such difficulties were encountered. On the report of Tungus that vast rich lands lay south of the Aldan region, Cossack Poyarkov in 1643 undertook the first expedition there with 132 men. From Yakutsk he proceeded along the Aldan and then followed the Aldan's tributary, the Uchur, and then the Gonam. But here winter surprised him on the broad watershed of the newly discovered Stanovoy. The lack of game on the uninhabited ridge of the mountain brought the expedition into very great danger. Death from hunger threatened everyone, and they had to eat tree bark and moss in order to preserve their strength. Despite the great danger Poyarkov succeeded in crossing the watershed on skis, and with the breaking up of the ice he reached the Bryanka, a tributary of the Zeya. Using rafts and boats he himself had made, he went down this river to the Amur, at whose mouth he spent the winter with the primitive fishing people, the Gilyak. In the summer of 1645, using small boats without keels, he proceeded from here along the coast to the north. After a three-month trip with unbelievable deprivations, he landed at the mouth of the Ul'ya, where he encountered Russian settlers and thus was saved. From here he followed the Maya to the Aldan and returned to Yakutsk in 1646. On this hard three-year trip he lost 80 men through illness, enervation, and conflicts with natives. In his description of the Amur country Poyarkov reported on the peoples settled here and mentioned among others the Daur and Gilyak. Of the latter he said that they ate only fish. The Daur, on the other hand, pursued agriculture; barley,

buckwheat, millet, peas, and hemp were cultivated. Likewise animal breeding was known to them, they kept horses, pigs, cattle, and chicken. In the woods he found wild walnut trees. All these tribes paid tribute to the emperor of China, who was called Bogdo-Khan. The natives reported that his warriors fought with fire and bows and arrows. 175 484

Three years after the return of Poyarkov, Khabarov set out again from Yakutsk with 70 men on a new exploratory trip toward Amur. He selected a route running farther to the west than Poyarkov had, and he followed the Olekma and the Tungir in order to reach the Amur via the Urka. There he found a large, hostile population ahead of him and, since he felt himself to be too /24/ weak, he turned back to Yakutsk in 1650. However, the next year he set out again with stronger forces, and by the same route reached the Amur on which he founded the city Albasin /today: Khabarovsk?/ at the mouth of a small river. Agriculture was started, and the place itself was provided with buildings for defense. Numerous Russian peasants followed and settled here. However, the still unknown distances and the waiting booty enticed the restless Cossacks. In a constant fight with the Tungus tribe, the Daur, whose cities he pillaged and destroyed, Khabarov undertook numerous trips on the Amur and also followed the Sungari and the Ussuri. He had to spend the winter of 1651-52 at the mouth of Ussuri on the Amur and there he had to defend himself from vigorous attacks by the Manchu and other peoples. The city of Khabarovsk, later founded at the same spot, bears his name.

The first Russians who advanced into the country were free, very bellicose Cossacks; but with them came Russian settlers and traders at the same time. At favorable trade points they established settlements and, in addition to hunting, agriculture, and fishing, they pursued an active, highly profitable fur trade. Over and above this they demanded the usual "yassak" from the natives. These tributes were collected ruthlessly. Robbing and plundering of the sedentary native population were part of the daily agenda, and accordingly many natives, particularly those pursuing agriculture, left the insecure land and resettled on the right side, the Manchurian side of the Amur. 175 167

By the middle of the seventeenth century there were already a whole series of Russian settlements along the Amur; the capital of these was the above-mentioned Albasin /today: Khabarovsk?/.

their defenses at the time of the first invasion of the Russians. Many Buryat were even taken into the Cossack organization as equals. The Amur country, which remained in China's hands, was not, however, forgotten. With its wealth of furs it soon again enticed many Russians, who advanced along the Amur anew, set up settlements, and with their own hands began to establish themselves economically in the foreign land. The very audacious even ventured as far as the Ussuri country. 175 167

Although the northern border of the Amur country, almost unknown to the Russians and the Chinese equally, had not been laid down exactly and had no border markings, it remained thus for over 160 years. In this period, especially after 1800, numerous Russian scientific expeditions traversed the land. In addition to many well known Russian researchers, such as Maksimovich, Veniukov, Nevelskii, Usoltsev, there also appear many German names of Baltic origin, such as Middendorff, Schrenck, Radde, Schmidt, and Glehn. Outstanding descriptions of the land come especially from Middendorff. At the same time the sea-faring powers began to concern themselves with exploring the northeast coast of Asia. In 1778 Cook traveled the Bering Sea, in 1787 La Pérouse explored the Japanese islands and Sakhalin, and in 1795-98 Broughton worked in the same area. It is interesting that /26/ the poet Adalbert von Chamisso (1815-18) participated in the exploration of Kamchatka and the Aleutian Islands. 175 484

In the geographic research in the Amur country, the question of the mouth of the Amur was of predominant interest, for in this Russia hoped to find access to the Pacific and a favorable harbor. Already in 1777 the far-seeing Czarina Catherine II had, on the basis of the report of the unsuitability of the Sea of Okhotsk, given an order that the Amur mouth be explored. La Pérouse, Broughton, and Krusenstern (1803-1806) had reported that the Amur ended in an estuary, which only in the north had a link with the sea, and this was shallow and not navigable for ocean-going vessels; to the south Sakhalin was connected with the land, i.e., it was a peninsula. In 1846 Gavrilov, who had been commissioned to do exploratory work in this sea area, still confirmed these claims. Nevelskii, a Russian naval officer, turned against this conclusion after practical reflection. He could and would not believe that the powerful masses of water from the immense river, the Amur, should run into an estuary which was almost closed off. It was a dramatic battle which he had to

175 conduct against the explorers recognized by the authorities, and he
484 found support from the new Russian governor for East Siberia, Muraviev, who later was made a count and received the honorary name of Amurskii. Muraviev got him command of a small ship, with which Nevelskii headed for the Far East from Kronstadt and in 1849 began his explorations, even before he had received permission to do so. He determined that the connection to the north between the sea and the Amur Gulf could be traversed at all times by ocean-going vessels with a depth of up to 4 meters, and that Sakhalin was an island, and that accordingly during the warm seasons ocean-going vessels with a depth of up to 5.50 meters could get unhampered to the mouth of the Amur from the Sea of Japan through Tatarskiy Proliv /sound/. This news caused a sensation in Petersburg and awakened anew the greatest interest in the Far East both among the state leaders and among the public. In the meantime explorers such as Middendorff, among others, and later also Nevelskii himself reported that the area east of the Lesser Khingan and of the Ussuri had, for all practical purposes, never been brought under Chinese administration and that it was, therefore, in fact free. Thereupon Muraviev took possession of this area and also the Amur country. All of these events are reported in detail, but from the Chinese point of view, by Aitchen K. Wu in his work appearing in 1950, "China and the Soviet Union" (231).

231. Aitchen, K. Wu. China and the Soviet Union (London, 1950).

[148] In 1858 Russia and China signed the Treaty of Aigun, in which the Amur country was declared to be a Russian possession, while the Ussuri country was to be administered jointly by the two countries. But in 1860 in a treaty with Peking Russia also received the Ussuri country and was promised the Island of Sakhalin. With this, all regions which today belong to /27/ the Soviet Union came under Russian administration. In 1860 Vladivostok was founded, in whose name the imperative of Russia's Far Eastern policy was expressed: "Rule the East!"

General Survey

133 Transbaykal, like the other border areas in the Far East, belongs to the east Siberian mountain country. In contrast to the other

361 this city almost 25 percent of the total population of the Buryat-Mongol
[371] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole
[253] Far East. Supported by the Buryat's important breeding of livestock, the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large
[323] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a rail-
[376] road, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since
[313] the tributaries of the Selenga come from areas rich in forests. Here again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ 2/216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over
● 487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak
491 (Chinese: Maimachen). This overland route, expanded into an auto-
496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this
491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

133 Gold streams are mined on the Ketemakhta, a left tributary of the [316] upper Kalar. Connection with the outside world is provided by [487] mountain paths, which lead toward the south to the Mogocha Station on the Amur Railroad.

The Olekminsk Stanovik comprises the entire area around the upper course of the Olekma and at the same time forms the watershed for the Amur. The entire region is described as a forest-covered plateau, whose general height lies between 950 and 1,000 meters. The river valleys are mostly deeply etched, and lie 80 to 200 meters below the surface of the plateau. The ridge between the Olekma and its right tributary the Tungir bears the name of Dzhaliro-Tungirskiy Mountain Range; otherwise individual designations are not known. The watershed for the Amur forms a flat ridge, which generally is only 800 to 900 meters high. Toward the south, toward the Amur, this ridge gives way very quickly to hilly country, which is interrupted by the broad valley areas of the numerous waters flowing into the Amur. The most important of these is the Amazar, whose valley is also used for a stretch by the Amur Railroad. In contrast to the [237] thick larch forests, which cover the bulk of the Stanovik, the vegetation on the slopes inclined toward the Amur includes numerous deciduous trees and thus shows already a more friendly picture. Gold is the 316 most valuable product of the regions. The river valleys between the upper Tungir and the Amazar are especially rich in gold. These valleys are very well opened up because of their nearness to the railroad. The center of gold mining is the city of Mogocha, which has approximately 30,000 inhabitants. It lies on the railroad on the left side of the Amazar. The alluvial sands of the little rivers flowing into the Amur also have gold and, therefore, from early times have [361] enticed many men who then remained in the land. Accordingly, the entire strip of land between the railroad and the Amur is relatively thickly settled. Worthy of mention here is the valley of the Urusha, which is crossed /237/ by the railroad at the station of the same name. In the vicinity of Urusha brown coal deposits have been determined, and, west of Urusha in the vicinity of the Yerofei Pavlovich station (which has more than 20,000 inhabitants), there are also usable tin deposits.

The Oldoy-Zeya Mountain Country

133 East of the area around the upper course of the Olekma, the

361 Only in the southeast in the triangle between the Amur and the lower Zeya is there an agricultural settlement covering an area of any size. In the rest of this region a zone of settlements with many gaps accompanies the Amur and the railroad.

496 The Amur Railroad runs approximately along the middle of the plateau and uses the watershed exactly, since along the watershed there was, for understandable reasons, the best and the easiest opportunity for marking off. A branch railroad, 38 kilometers long, leads from Ushumun station to Chernyayevo on the Amur, in the center of a

135 region with great prospects for the future, for here only a few years ago hard coal deposits were determined. These deposits stretch along the left side of the Amur between its tributaries, the Urinda and Magdagachi, i.e., approximately around the locality of Chernyayevo mentioned above. The coal is of Jurassic age and lies in individual anticlines, which stretch toward the northeast. Although, judging from individual tests, the ash content of the coal is supposed to be great, the deposits have a prominent significance because they lie in a region /243/ /Sketch Map of the Amur Oblast:/ which formerly had to be supplied with coal from a great distance. In some places the coal-bearing layers are broken through by granite laccolite and porphyry effusions, and thus the coal here has been transformed into valuable semi-anthracite and full anthracite. Nothing is known of the total supply in the deposit designated by the Russians as the "Upper Amur Coal Basin." There are numerous outcroppings on the Amur and in the individual river valleys. Very recently the mining of the coal deposits in the vicinity of Madgagachi has begun.

361 The principal locality in the northwestern part of the plateau is Magdagachi (approximately 10,000 inhabitants); the principal locality in the southeastern part is Shumanovskaya (approximately 25,000 inhabitants). Both of these towns lie on the Amur Railroad.

•[487] The Tygda station between Madgadachi and Ushumun has greater significance in terms of transportation. A land route leads from Tygda via Ovsyanka, which lies at the point where the Zeya and the Urkan flow together, to the Tukuringra break-through of the Zeya. This is the shortest land route connection from the Amur Railroad to the gold fields on the upper Zeya and the Gilyuy.

133 /244/ East of the lower Zeya begins the Zeya-Bureya Lowland, which stretches toward the east along the Amur over a broad area extending beyond the lower course of the Bureya. The end of this low plain is prepared by the high embankment of the Bureya Mountain

conditions the Selemdzha is even traveled as far as Selemdzhinsk. 000
But then begins a land route which is 250 kilometers long and is 487
laborious to travel. At the end this land route reaches the high-lying gold fields with steep ascents.

From the mighty complex of the high plateaus, which surround 133
the area around the source of the Selemdzha, the highland gradually declines toward the south. The surface of the Bureya Mountain Range is only 600 meters high on the upper course of the Amgun and of the Tunguska (a left tributary of the Amur), and only individual gol'tsy rise to heights of 1,000 meters. The Amur Railroad crosses the mountain range in the Lagaraul Pass at a height of 452 meters, and on the Amur itself the highest mountains only reach a height of 200 meters. The mountains here come in a broad front directly to the river, which breaks through the Khingan-Bureya Mountain Range here between Pashkovo and Yekaterino-Nikolskoye in a narrow valley which is 150 kilometers long. The great masses of water are pressed together here by steeply declining, often bare rocks, which come together in places to form a narrow corridor with high, almost perpendicular walls.

The general impression of the Bureya Mountain Range differs little from that of the Zeya Highland. Here, too, the basic forms permit the plateau-shaped surface to be recognized, and projecting from this plateau surface are numerous gol'tsy. However, all parts of the mountain range here show greater effects of erosion, which undoubtedly goes back to the heavier rainfall. Almost all the rivers, at least in their upper courses, flow in narrow, rocky, deeply etched gorges as long as they remain in the sphere of the plateau-shaped elevations. Then the valley areas quickly widen, and, even though they are often still accompanied by steep, rocky slopes, the valleys extend between the gently inclined slopes of the swampy plateau. But also in the lower places there are still individual cones or summits sitting on the plateau.

The vegetation of the Bureya Highland is /251/ unusually 137
varied. The reason for this lies not only in the changing relief but also primarily in the fact that the elements of three flora regions meet here, namely the East Siberian, Okhotsk, and Manchurian flora regions. In the northern parts of the highland on the mountains and slopes at a height of 600 to 900 meters there are thick forests which consist primarily of Ayan spruce (Picea ajanensis) and fir with white bark (Abies nephrolepsis), with a small number of birches intermixed. The low temperatures, the cool fog, and the strong, damp winds which blow

137 in constantly from the sea in the summer, have given these forests a peculiar appearance. The branches are covered with long lichen, which hang down like beards, and moss grows on the stems as far as the boughs. A thick layer of moss also envelops the earth, and with every step water springs from the damp cushion. In the deeper places and also in the middle part of the highland, larches then appear as forest-formers, and the forests gradually become purely larch forests, and also fill the valley areas as far as the middle courses of the great rivers and press far to the south. The reason for this can be seen above all in the fact that the cold air masses flow down into the valleys and thus prevent the expansion of other types of trees. Only on the lower courses of the rivers flowing toward the south do deciduous trees set in. The larch forests which cover the bulk of the Bureya Highland are economically the most valuable.

316 The valley of the Niman was once among the most famous of the gold fields in the Far East. But the deposits are already exhausted. In their place the gold fields in the area around the upper course of the Bureya have now appeared, but these cannot compete in yield with those of the Selemdzha. The valley of the Bureya serves as the con-

505 necting path to the gold dressing installations. When the water level is good, the Bureya can be used by steamers for 345 kilometers as far as the locality of Chekunda, and occasionally even as far as Umal'ta. From Chekunda down the greater drops already work so strongly against water vessels that from here on the boats as a rule have to be drawn by

•487 horses. The last part of the way then is traveled by car or with riding horses and pack horses. An extension of this route toward the east leads over a pass, which is more than 1,000 meters high, to the gold fields on the upper course of the Kerbi, a tributary of the Amgun, which already belongs to the lower Amur. This much-traveled old Bureya gold route has today for the most part lost the importance it once had, since rich deposits of molybdenum and especially of coal have been found in the valley of the upper Bureya and a railroad has been built there.

316 There is molybdenum in the valley of the Umal'ta, a left tributary of the upper Bureya. Here a great molybdenum works has been erected in Ust'-Umal'ta. The hard coal deposits fall into two parts, into the deposit on the upper Bureya and the Tyrma deposit, which are separated from one another only by tectonic occurrences with

491 succeeding erosion. For the /252/ opening up of these deposits a railroad line is being built from Izvestkovyy, which lies west of Birakan on the Amur Railroad. This new railroad line leads over the Bureya

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same [505] names. During the summer, connection between these localities is maintained by small coastal steamers; during the winter the connection [487] is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities 491 are Orotukan and Khatynakh. For connection with the outside world a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

Chita. Until a few years ago there were only two sugar factories in Voroshilov (Ussuri-Khanka Area) to supply the sugar needs. The largest of the two could process up to 1,400 tons of sugar /180/ beets a day. In order to supply Chita Oblast and the Buryat-Mongol ASSR, the cultivation of sugar beets has been begun there since 1943, and a sugar factory has been built in Bichura in the Buryat-Mongol ASSR. Another such factory is supposed to be built in Chita. The extraction of plant oils is done primarily by two large oil mills in addition to numerous small installations which are part of agricultural establishments. One of these large oil mills is in Blagoveshchensk, where primarily sunflower seeds are processed; the second of these large oil mills is in Voroshilov. It specializes in the processing of soy beans and perilla seeds.

/181/ TRANSPORTATION

General Significance of the Transportation Situation

The pressure (to have access) to the sea was the real reason for the unrelenting march of the Russians to the Pacific. The unfavorable situation of the Sea of Okhotsk caused them to turn to the south, where the mouth of the Amur awakened hopes in them. With obstinate patience they endured one and a half centuries until this goal, too, was attained. Their hopes, however, were disappointed. Nikolayevsk at the mouth of the Amur did not prove itself to be a suitable harbor and open door to the Pacific. In Vladivostok a more favorable place and an excellent harbor was found, but it developed slowly because the immediate hinterland was still not developed and the route from Siberia through Russia's own territory via Khabarovsk was too far. Thus, by virtue of a treaty with China, the "Chinese East Railroad," as the Russians call the north Manchurian railroad, was laid as a straight line crossing through Manchuria, even before the Amur railroad was built. With this the way to Vladivostok was shortened by about 1,000 kilometers. The north Manchurian railroad was completed in 1904; the Amur railroad, on the other hand, was completed only in 1916. The harbor in Vladivostok, however, is closed by ice for an average of 110 days, and during this period must be kept open by ice-breakers. So the glance of the Russians shifted to the south and rested in the harbor of Dal'nyy, "the far away," which was later renamed Dairen by the Japanese. From Harbin the Russians laid a railroad to Dal'nyy and laid out Port Arthur to protect the naval port. The route from Harbin

489 to Dal'nyy was, to be sure, 325 kilometers longer than the route to Vladivostok, but the ice barrier in Dal'nyy was scarcely noticeable, 648 and a second access to the Pacific was attained. In the Russo-Japanese War, to be sure, this southern position was lost, and in 1935 the north Manchurian railroad, too, was lost through forced sale. However, the outcome of World War II brought all these positions again into the hands of the Soviet Union, who restored the earlier situation by new treaties, and who thereby shows that she will pursue again the old path of the Czars. And the day is no longer far off when a railroad will lead from Ulan-Ude in Transbaykal via Ulan Bator (Urga) to Peking and Tientsin. As she did in the case of the Manchurian route, the Soviet Union can, on the basis of treaties, create another way out, which, going from Ulan-Ude directly to the sea, is more than 500 kilometers shorter than the route to Vladivostok. Only the middle piece is still missing.

/182/ As a result of this transportation situation, the Soviet 648 Union exercises extensive influence on the neighboring regions. When the north Manchurian railroad was built from 1897 to 1904, northern Manchuria was extremely lightly populated. Harbin, at that time a small fishing village, already had a population of 470,000 by 1938. With the growing settlement of the land the influence of the Russians also grew, working through the railroad lines which were the nerve centers of life and of the economy. The influence of the Russians was especially great in northern Manchuria which was principally settled after the construction of the railroad; and even the Japanese were not able to eliminate this influence in the period from 1931 to 1945. It can be assumed to be obvious that this influence will begin to grow anew since the main economic channels again have received Russian blood. In this growth of influence, the limits are not in sight. In this the fact that Manchuria is surrounded geographically in the east by the Ussuri county, which in Vladivostok has the closest world harbor for northern Manchuria, is of just as great significance as the fact that northern Manchuria is surrounded on the west by the Mongolian People's Republic. And here Transbaykal plays a particular role. It represents not only a natural continuation of the Mongolian landscape; but also the Buryat Mongols are the closest relatives of the Khalkha Mongols, and, under Russian and Soviet Russian rule, the Buryat Mongols culturally and economically have attained a great jump ahead of their brothers on the other side of the border. From this an influence which will have an effect over the border can be explained as perfectly natural,

without any additional reasons. It must also be assumed as obvious that Buryat-Mongol relationships in the Soviet Union served as a model in the formation of the Mongolian People's Republic and its organization into a state, and also that thereby the influence of the Soviet Union has grown far beyond its political borders.

Land Transportation

Transportation acquires a striking importance with the size of the area. The development has shown that the transportation installations were not created because there was a necessity based on the economy of the region itself, but rather that the transportation-political standpoint of the entire state was decisive for the various transportation installations. The Amur railroad and also the Ussuri railroad were for their part built through regions which were often completely uninhabited or settled only extremely slightly. Only with the construction and after the completion of these railroad lines did people stream in in larger numbers, and accordingly the railroads became pacemakers for the colonization and development of the economy. Even today it is still so. Connection with the transportation system is the necessary condition for winning new settlement areas and for exploiting the rich natural resources of this vast land.

With the slight density of population, transportation installations, such as for example the railroads, which required a great expenditure of capital and labor, often /183/ prove themselves to be unsupportable economically, unless these installations correspond to another, higher point of view, or are built for the future in a far-sighted fashion. In both cases it is up to the power and the enterprising spirit of a great state organism to carry out mighty tasks of this type. That was the case with the old Russia and it is also the case with the Soviet Union. At any rate the slightness of the railroad network goes back to these reasons. In contrast to these, however, the transportation installations, whose introduction required only slight outlays of money, are much better developed. To this category belongs water transportation, whose present state, according to the judgment of Soviet specialists, exceeds even that of the European part of the USSR. Also in this category is air transportation.

The railroads are the main bearers of the traffic. The eastern part of the Trans-Siberian Railroad constitutes the main vein. It runs from Lake Baykal via Ulan-Ude and Chita across Transbaykal, and then,

509 and Vladivostok. An important line leads from Ulan-Ude to Ulan Bator in the Mongolian People's Republic with a stop en route in Kyakhta. Khabarovsk can be named as the special center of air transport. From here the air lines go the north. Regular flights are made to Komsomol'sk, Okha and Aleksandrovsk on Sakhalin, then to Ayan, Okhotsk, Petropavlovsk on Kamchatka, and Anadyr' in the extreme northeast. However, the air transportation also performs purely economic tasks. Thus regular flights are made to the gold fields on the upper Barguzin from Ulan-Ude and to the gold regions on the upper Vitim (Tsipikan) from Chita. Also the polar stations along the coast of the Arctic Ocean are supplied by airway. Beyond the regular lines, occasional flights are also made into the remotest regions. In the summer seaplanes are also used; they fly along the great rivers and can go down on the water at all times and everywhere. In winter, on the other hand, airplanes are used which are equipped with gliders /Gleitscheinen/ which enable the planes to land on slick ice and snow surfaces.

/195/ Tranportation of the North

489 The vastness and the slight population of the entire vast north has made it unnecessary to build routes apart from some few overland roads; and accordingly the entire area can be designated as without routes of any kind. Traffic here is accomplished within moderate limits on natural routes through the forests, on narrow paths through the mountains, and in the open tundra areas via the open plains. As a consequence of the great dampness and the heavy formation of swamps, all forms of land transportation cease in summer in many places, and transportation is then limited to boat traffic on the rivers, which during this season offer the best means of transportation. Many localities are often cut off from the outside world for weeks and months. The transportation of goods is completed primarily in the winter, which constitutes the main traffic period for the entire north. These pathless regions begin already in the northern part of the Amur region, and in the Amgun area even reach the Amur itself. Characteristic [493] for these regions is the sled as the main means of transportation, while the characteristic draught animal is the reindeer or dog, or less commonly the horse. These are means of transportation such as have been developed by the native Tungus and Paleoasiatics; and they have to be used also by the Russians for trips and for the transport of goods, because in the present state of development there are just no other possibilities for transportation.

In mountain areas where only narrow, often steep paths are available, the beast of burden shows his real value. Only the horse is used as such; the reindeer is used very rarely since it has a backbone that is too weak and is not suitable as a draft animal. The reindeer is very rarely used as a riding animal and then only by the Lamut. The saddle is up in front on the reindeer; thus the rider sits directly over the reindeer's front legs. 492

Recently the horse has been adopted more and more on Kamchatka and also on the coast of the Sea of Okhotsk, and here and there it has already displaced the dog as the draft animal.

In summer, traffic in the entire north goes into the land from the coastal localities to which the coastal steamers make runs. The distances, therefore, are not so great, and the rivers make possible a further penetration into the interior. 489.

The Kolyma has acquired a special significance in this connection; it is regularly traveled every summer to supply the gold districts. To be sure, the period when the river is navigable lasts only approximately three months. If, however, the entire coastal strip is covered with ice in winter and entire sections of the sea become ice wastelands, then the old means of transportation--dog sleds and reindeer sleds--still come into their right even today.

Sea Transportation and Ice Conditions along the Coast

The extensive coasts of the Far Eastern regions are above all designed for sea transportation. This applies primarily to the entire coast north of the mouth of the Amur; the localities along this coast have only a very slight economic hinterland behind them or no such hinterland at all, and, therefore, in their development, indeed in part even in their obtaining supplies, these localities have been dependent on the sea route alone, which for most of them signifies the sole connection with the outside world. But the coastal localities of the Sikhote-Alin', too, have no built-up and easily passable land routes over the mountains to the thickly populated Ussuri-Khanka depression, and, accordingly, an exchange of goods for these localities is likewise only possible by the sea route. With /198/ this striking importance of sea transportation it is understandable that the Soviet Union has striven with all its powers to build up and to develop sea transportation. Unfortunately, as has already been brought out in the discussion of the climatic conditions, nature is not favorable to sea transportation on 505

The wealth of natural resources is, however, of far greater 135
significance for the economic development of the future.* In this 489.
connection the non-ferrous metals in addition to iron ore should be mentioned primarily. The still insufficient connection with the transportation network, however, offers the greatest handicap to the exploitation of the natural resources. Apart from the railroad line which runs from Karymskoye to Otpor to Manchuria, there are only land routes available. Even the very important zinc-lead mines in Khapcheranga, in Mangut, and on the Sokhondo can be reached from the Ulstuy station, west of Karymskoye, only by a built-up land route which is around 320 kilometers long. And by the same route, too, the produce of the mines must be brought to the railroad line on trucks. Because of the smaller differences in height the land route along the Onon valley to the Olovyannaya station has recently been used in perference to the above-mentioned route, which crosses more mountain ridges. Also the regions in the angle between the Manchurian side branch of the railroad and the Argun can only be reached by built-up land routes and truck transportation. Borzya on the railroad line appears to be 361
developing here into the traffic center. Toward the east a narrow-gauge railroad leads to the /229/ non-ferrous metal mines of the Argun district, and toward the southwest a similar line leads to Choybalsan in the Mongolian People's Republic. The city itself, located in the middle of the Argun steppe which is rich in livestock, has a large meat plant. In addition to Borzya there should also be mentioned on the Manchurian branch of the railroad the city of Olovyannaya, which has already been mentioned several times and which is known for its tin works. The bulk of the other localities have already been listed in the discussion of the natural resources.

*[i.e. of the Aginsk steppe -- Analyst]

The Vitim Plateau and the Northern Forested Mountain Provinces

To the north of the Yablonovyy Ridge, spreading east of the 133
Ikatskiy Mountain Range, is the Vitim Plateau, which is adjoined on the north by a series of mountain ridges. The entire region represents a forest mountain range landscape, which climatically is very raw and which makes it very difficult for man to make his way here. Agriculture disappears almost entirely here or is limited to small islands which are scattered sporadically. Only Tungus hunters and reindeer breeders in small numbers traverse the thick taiga and pass a laborious life . However, these wastelands conceal extraordinarily rich gold 316
streams, which are diffused especially in the central part of the Vitim Plateau and which have brought into being active gold

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

489 means of transportation. They have built 653.2 kilometers of rail-
road lines, and in addition they have improved the land roads, too,
so that they can be traveled regularly by buses. However, this opening
up to traffic has generally been limited to the regions near the coast
and to the most southerly part of the island, while the greatest part of
the interior, as in northern Sakhalin, remained left to itself. Now the
316 most important coal deposits also lie not far from the coast, and the
Japanese succeeded in bringing production in a large number of mines
up to approximately two million tons by the beginning of the last war.
Of this 500,000 tons could be exported to Japan. The remainder was
used in Sakhalin, above all in the wood industry, which had been
289 developed on a large scale by the Japanese. Since 1929 the Japanese
had gone about, in a planned fashion, the building up of a cellulose
and paper industry in southern Sakhalin, in order to be able to supply
their home economy with these products. At the end, just before the
outbreak of war, there were eleven large cellulose and paper factories
in the country, and their production constituted almost 90 percent of
the industrial production of southern Sakhalin. The share of these
factories in the total production of Karafuto was around 60 percent.
313 In addition, southern Sakhalin delivered large quantities of wood as
224 cut wood and raw lumber. Southern Sakhalin was also very important
to Japan as a base for fishing, which produced rich surpluses. However,
in one thing the Japanese did not succeed: the securing of food for
the population from the island itself. In this particular Sakhalin was
an importing region, although the Japanese made every effort to ex-
pand agriculture and the breeding of livestock.

433 /283/ After the evacuation of the Japanese and the taking over
of southern Sakhalin by the Soviet Union, the Soviet Union has striven
to fill the land with people and to get the economy's production going
again. On this there are numerous reports, which tell especially of
the founding of kolkhoz and sovkhoz. In addition there are constant
reports on the establishment of fishing stations and of fish-processing
central stations, but there are only a very few reports on the taking
over of coal mines and of getting them into production. There is
little information on the installations of the wood industry, although
it is to be assumed that the Soviet Union has above all laid value on
getting the industrial plants into production, and apparently, too,
everything has been done so that these plants could take up their pro-
duction again.

Or, under specific conditions, ice kernels form within the earth. 132 134
These ice kernels grow and press the upper layers of the earth into a hill, which then in the warm season collapses again. As a result a lake is frequently formed in place of the hill because of break-throughs in the earth. Generally the existence of frozen earth permits the absorption of the surface water only to a certain depth, and accordingly the rainfall for the most part must flow off on the surface. The irregular water flow of the rivers in these regions often goes back to this phenomenon. Thus the contrast between the high and low water lines is very great everywhere. At the confluence of the Shilka and the Agrun, the Amur passes, as its annual mean 1,200 cubic meters of water per second, while the minimum during the year is only 125 cubic meters per second. Heavier rainfall makes itself felt immediately in an often flood-like rise in the water being passed in the rivers. The thawing of the surface layers of the earth, especially in areas with varying morphological formations, offers the best conditions for ground flows. Thus the domain of the permafrost is the classical land for landslides and solifuction.

But, in addition to these numerous and very interesting natural 132 134
phenomena, the effects of the permafrost on man and his economy 499
must be mentioned; these effects are apparent everywhere in the permafrost domain and often bring difficulties. Through freezing the volume of the water expands, presses the ground upward in places, and causes destruction of transportation installations. Deep tears occur in the railroad line, and through these tears mud and water from deeper layers often push out, /53/ /Mapof the permafrost area:/ /54/ freezes on the surface, bursts the splits open farther, and forms high bucklings, and thus gradually the roads become unusable. With the setting in of the thawing weather, everything sinks together in mud and pulp.

In addition the roads and especially the bridges are by preference the starting points for ice building on ice. As an example [491]
Sumgin points out the road built from Bol'shoy Never on the Amur railroad, via Tyndinskiy and the Aldan gold region, to Yakutsk on the Lena. This road should be usable for trucks the entire year. Out of the entire length of 1,300 kilometer, on the southern part alone between Bol'shoy Never and Tommot, which is 728 kilometers long, 117 formations of ice on top of ice were counted in the winter of 1927-28. These formations caused serious destruction, especially on bridges which were as a result partially raised up, made crooked, and gradually

knowledge of the wealth of this region were spurs to pushing recklessly forward in the exploitation by using work camps. As a consequence, the Kolyma area today is among the most notorious regions in the Soviet Union, and is one of those most feared, because of the harshness of its climate. 135

For the opening up of this area building was done on the harbor and city of Magadan on Nagayevo Bay. The inhabitants of this city today are estimated to be 50,000. A highway was laid out to connect with the gold fields; by 1940 this highway had already attained a length of more than 700 kilometers, and it connected all the important mining centers. The road is kept usable for trucks the whole year through. The supplying of the entire area is done via the sea route, for the most part via Magadan, and for the rest from the north via the Kolyma. Since these connections, however, are closed off by ice for more than six months during the long winter, they proceeded to create a permanent land connection by building a highway from the center of the gold district to Yakutsk on the Lena. Of considerable importance for the development of this regions is also the fact that hard coal has been found on the Kolyma in the vicinity of the town of Verkhne-Kolymsk. Some Sovkhoz have been founded as a local source of supply for vegetables, milk, and fresh meat. [491]

The main gold fields lie west of the Buyunda, a /169/ right tributary of the Kolyma, primarily in the area of the Srednikan and Orotukan rivers. At first only the very productive gold streams were exploited, but then the mining of mine gold was also taken up. Mine gold is especially rich in the mountains on the Srednikan, on the Utina, and on the Khatynakh. The most important centers of the gold district are Srednikan, Orotukan, Khatynakh, and Seymchan.

Gold extraction in the Kolyma region developed as follows in comparison with the total production of the Soviet Union (Figures are in 1,000 kilograms): 316 433

	1933	1934	1935	1936	1937	1938	1939
Soviet Union	83.0	120.0	149.0	163.0	176.0	192.0	210.0
Kolyma Region	0.3	1.2	8.0	12.3	20.0	30.0	51.0
Percentage of the whole supplied by the Kolyma Region	0.4	1.0	5.4	7.5	11.3	15.6	24.3

(Table continued on following page)

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Kansk and Nizhneudinsk, and leads via the Angara to the upper Lena, which it leaves before the mouth of the Vitim in order then to follow the Vitim to the mouth of the Kalar. The line then crosses the Kalar Massif toward the east, crosses the Olekma at the mouth of the Nyuksha, and extends to the valley of the Gilyuy, along which it runs as far as the mouth of the Gilyuy at the Zeya. Then the railroad line follows the breach valley of the Zeya through the Tukuringra Mountain Range toward the south and finally turns again toward the east. The Selemdzha is crossed at Norsk, the point at which its navigability begins, and the Bureya is crossed at Chekunda, the center of the greatest hard coal deposit in the Far Eastern region, a deposit which is just beginning to be opened up. The BAM ends in Komsomol'sk on the Amur. Various cross lines are supposed to provide a connection with the Amur Railroad, and of these two have already been completed. In its course, the BAM cuts through forested areas which are rich in wood but are still completely untouched; in the northern part of the Amur country the BAM crosses through the most important gold fields; and it opens up important deposits of natural resources. The construction difficulties are supposed to be extraordinarily great. It is a railroad of the future, and it is to be expected that gradually a belt of settlements will come into being following the railroad line; the railroad workers set up in permanent dwelling places, even now constitute the basis for such a belt of settlements.

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Since the main railroad lines and also the main water veins /188/ cross through the zone of settlements in the longitudinal direction from west to east, built up land routes in this direction are rare. The old Siberian tract, which before the construction of the Trans-Siberian Railroad crossed through the entire region in the longitudinal direction, has long since lost its significance as an overland route and today serves as a local connection. The Ussuri section is an exception. In the last few years this has been rebuilt from Vladivostok to Khabarovsk as an automobile highway with a firm understructure to supplement the railroad line. On the quality of this route a report says that approximately 18 hours are required to travel the approximately 770 kilometer long stretch in a passenger motor vehicle. Furthermore the greatest attention in the last few years has been devoted to extending this highway: above all it has been extended from Khabarovsk to Komsomol'sk and undoubtedly represents the most important highway in the Far East. Most of the remaining land routes have more the character of feeder routes; but regardless of this these routes are of great economic importance

491 and as a rule can be traveled by trucks.

Apart from the steppes of Transbaykal, where unhampered land traffic without building roads is possible throughout the year, land transportation in the Amur and Ussuri regions suffers from the great dampness of the ground and from the monsoon rains. The heavy rainfall which descends suddenly often destroys the roads and carries away the thin layers of the road bed. Where an understructure does not exist--and this is the case with most of the land routes--the routes become foundationless and become so quickly spoiled by heavy carting that using them is possible only with great difficulty. Also the high water of the rivers often tears away light bridges and by flooding breaks off the connections between the individual localities often for weeks.

Some land routes, however, have more than a local character and have the importance of overland routes. More care is also devoted to them. They are provided with a solid superstructure and good bridge installations, and, therefore, they are usable throughout the year by trucks, which are the principal means of transportation on these roads. In this connection the Kyakhta Tract should be mentioned first; formerly it had to overcome the exchange of goods with Mongolia. A western branch leads through the valley of the Dshida as far as Gorodok, the center of molybdenum extraction in western Transbaykal. From Chita a good route leads toward the north to Romanovskoye on the upper Vitim, and a second route leads directly toward the south to the upper course of the Onon to the tin mines of Khapcheranga and on the Sokhondo. An overland route of grand style takes its beginning at the Never station, which lies east of Skovorodino, and leads via the gold regions on the upper Gilyuy and Aldan to Yakutsk, the capital of the Yakut Republic.

In winter the rivers appear as valuable natural traffic routes. Their ice covering is so strong that they can carry the heaviest vehicles. /189/ The goods piled up during the summer not in the reach of the main traffic lines are then brought into the centers of the land with caravans of sleds or trucks. Even on the Amur and the Shilka long columns of motor vehicles are to be encountered during the winter.

However, already in the northern part of the Amur country all improved roads end. There begins the great wide north of the Far Eastern region, whose peculiar transportation conditions are to be treated in a special section.

361 this city almost 25 percent of the total population of the Buryat-Mongol [397] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole Far East. Supported by the Buryat's important breeding of livestock, [253] the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large [323] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a railroad, Ulan-Ude is favorably located in terms of transportation. At the [376] same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here [313] again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ 1 /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over 487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak •491 (Chinese: Maimachen). This overland route, expanded into an auto- 496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this 491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

316 Land road connections also exist toward the south via Romanovskoye
[491] on the Vitim to Chita. A rapid and continuous means of transportation
509] has recently been ensured by an airline, which is flown regularly and which connects Chita with Tsipikan, the center of the northern gold district.

133 To the north of the Tsipa-Bambuyka valley rises the Muya mountain country, which is divided into two long ridges by the river of the same name which flows toward the northeast to the Vitim. These two long ridges are the Southern Muya Mountain Range and the Northern Muya Mountain Range. The northern border of the latter is formed by the extended valley of the Upper Angara, which flows toward the west-southwest to Lake Baykal.

The Southern Muya Mountain Range, a mighty, massive horst, forms the watershed between the Tsipa and the Muya. It has a raw, wild appearance with a ridge of numerous gol'tsy, with an entire series of heights, crowned with snow, rising over 2,000 meters. The picture of the entire mountain range, however, is not unified, and the wealth of varying forms is determined by the change in the rock. The former root surface is, to be sure, heavily destroyed, but it is still always recognizable. In the higher places traces of an old glaciation are to be found everywhere in the form of circus /circular?/ valleys/Zirkustäler/, trough valleys, round basin lakes /Karseen/ and basin moors /Karmooren/, and, in the valleys, deposits of boulders and rubble. Because the Muya Valley lies at the slight altitude of 450 to 600 meters, the slope toward the north is much sharper than the slope toward the south to the Tsipa Valley, which generally has a height of more than 900 meters. The passes are difficult, small in number, and 1,450 to 1,700 high. From the swamps at the foot of the mountain range rise slopes covered with thick taiga. Here the ascent into the narrow valleys overgrown with shrubs is especially difficult. Only at heights where the vegetation discontinues, is there an opportunity for free movement.

The valley of the Muya is determined tectonically as a depression. It attains a width of up to 30 kilometers. A mixture of deposits of old and recent date makes the valley plain appear rich in variety. Hills, long embankments, sand bars with closed off lakes, in between swamps and moors displace one another. Terrace formations on the border of the valley and widely diffused lake sediments permit the basin of a former lake to be recognized in the valley.

The Northern Muya Mountain Range, likewise a horst, is

133 permafrost, however, create great difficulties. Development of the area is hampered by the area's remoteness and the difficulty of gaining access to it, since the break-through valley of the Zeya toward the [505] south represents the sole gateway to the depression. To date the supplying of the area has been done on the water route as far as the locality of Zeya, for the Zeya River is navigable to this point. The [491] supplies are then brought by vehicles further up the river. The area around the upper course of the Gilyuy is crossed by the highway from Never to Yakutsk. This highway crosses the Tyndinsk, a tributary of [496] the Gilyuy, at Tyndinsk. The new Baykal-Amur Railroad, coming from the Nyukzha valley, is also supposed to enter the valley of the Gilyuy at the same place and to follow the Gilyuy as far as the Zeya, in order then likewise to use the Zeya's break-through valley as an exit toward the south. The laying of this railroad line through the Zeya-Gilyuy depression is expected to lead not only to better opportunities for exploiting the gold fields but also to the use of the rich supplies of wood in the forests, and finally also to better settlement of the area.

/240/ The depression of the upper Zeya and Gilyuy is cut off into a vast basin on the south by a watershed mountain chain. The Zeya is the sole river flowing off to the south in this basin. This mountain chain is regarded as a continuation of the Daur and the Shilka mountain ranges; it stretches from Transbaykal via the Olekminsk Stanovik to the depressions of the Amgun (left tributary of the lower Amur) (207). This entire line of mountain ranges was, according to

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, 2 vols., (Odessa, 1923), p. 250.

Ahnert (16), formed partly by faulting but principally and especially

16. Anert /sic/, E.E. Kratkii geologicheskii ocherk Priamuria /Short Geological Sketch of the Amur Region/. Geological Research in the Gold Regions of Siberia, Vol. XVII. Petersburg, 1913.

on the southern edge, by break formations. Within the Oldoy-Zeya Highland the chain of mountain ranges begins in the west with the Yankan Mountain Range, which lies between the upper courses of the

133 northern edge it represents.

The Oldoy Highland is the smallest part of the region as a whole, and it comprises the area between the Yankan Mountain Range and the Amur. Already from the region around the source of the Oldoy toward the south the landscape flattens out and dissolves into individual ridges, mountains, and valley areas, giving the overall impression of a mountainous and hilly landscape. Toward the southeast, between the Urkan and the Amur, the broad hill ridges gradually disappear altogether, and the landscape here flows into the so-called Amur-Zeya plateau, which already belongs to the greater landscape of the Zeya-Bureya plain area.

491 The Oldoy Highland is traversed in the north by the Amur
496 Railroad, from which a railroad line to the Amur harbor of Dzhalinda branches off in Skovorodino (more than 20,000 inhabitants), the seat of a railroad office. Thus, in terms of transportation, this region is quite well opened up. This is also true of the most heavily populated parts within the overall region. The alluvial sands of the rivers to the north of the Amur Railroad, especially the valleys of the upper Oldoy, and of the Great and Lesser Urkan, are rich in gold. The built-up highway which is mentioned above and which can be used throughout the year, leads from the station of Never (around 10,000 inhabitants). This highway crosses the Tukuringra Mountain Range and the Stanovoy in its western part and goes via the Aldan gold fields to Yakutsk. It reaches Tyndinsk in the area around the upper course of the Gilyuy. This important highway has recently been supplemented by a railroad line from Skovorodino to Tyndinsk, where there is a spur to the great Baykal-Amur Railroad (BAM). With this a direct cross-connection between the Amur shipping and the BAM is supposed to be created. The new railroad line, in addition, opens up new areas for settlement, just as the construction of the Amur Railroad has become a pacemaker for heavier settlement by an agricultural population. Also in the less swampy valley areas between the railroad and the Amur River agriculture is
361 pursued relatively actively. Accordingly, a lively food industry and also machine building shops and repair shops have been able to develop in Skovorodino, which has already been named as the center of the Oldoy Highland. Brown coal, which is mined in the vicinity, is used as the raw material for energy. To the north of the city tin supplies
[509] have been determined. An airfield in the vicinity connects Skovorodino to the great airline running from Moscow to Khabarovsk to Vladivostok.

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same [505] names. During the summer, connection between these localities is [487] maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities are Orotukan and Khatynakh. For connection with the outside world 491 a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

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same time created the shortest connection with the entire Kolyma region. The highway is more than 1,000 kilometers long and was built under the most difficult of conditions (mountain ranges, permafrost). Bases connected with small agricultural economies /290/ facilitates the use of the road. The harbor of Magadan lies on Nagayevo Bay. Steep rocks are artificially heaped up at the foot of the landing places for sea-going ships. Ice breakers are employed in the harbor to make it possible to use the harbor for a longer period. The rapidly growing city, which in 1939 already had more than 10,000 inhabitants and today is estimated to have 50,000 inhabitants, lies somewhat at a distance from the harbor and is separated from it by a flat, rocky hill. The construction of the city was done with the most modern means. They have even succeeded in building stable six-story skyscrapers, despite the permafrost, by using deep excavations and by laying in insulating layers.

361 [504]

The Provinces of the Extreme Northeast

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These regions are bordered on the west by the Kolyma Mountain Range, and they are divided into the Chukchi Peninsula, the Anadyr' and Penzhina region, and the Koryak Mountain Range. Of these areas only the strip along the coast is better known; the vast interior, on the other hand, is mostly still insufficiently explored.

The Chukchi Peninsula is cut off from the Asiatic contintent on the one side by Chaun Bay on the Arctic Ocean and on the other side by Anadyr' Bay on the Bering Sea. The southern border is formed by the Anadyr' Mountain Range, which represents the watershed between the Arctic Ocean rivers and the Anadyr', and which is more than 1,000 meters high. The region north of the Anadyr' Mountain Range is also filled with lines of mountain ranges almost as far as the coast of the Arctic Ocean. These mountain ranges stretch in a direction from west to east. Further toward the east the contiguous, broad mountain landscape is lost, and the mountain ranges form themselves into two ridges which lie under 800 meters and which, broken through several times by rivers, reach the east coast with the northern mountain range going in the direction of Cape Dezhnev. The cape itself, which lies 77 kilometers from the mainland of Alaska, consists of a single, massive mountain which is 770 meters high and which is formed from limestone. This mountain is completely isolated and is connected with the mainland only by a low, narrow tongue of land, which is

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by Nishikov's private hunting preserve. Near by, the prisoners of the invalid camp called 'Seventy-second Kilometer' work in a glass factory which is under the special protection of Gridassova and consequently always registers a marvelous production record. During the War burnt-out electric bulbs were repaired there, since new bulbs were almost unobtainable and even tiny bulbs were sold at a hundred and fifty rubles."[11]

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7) The Kolyma Buildup (1932-1946): As has been indicated earlier, Magadan and the entire Kolyma area were almost uninhabited in 1932 when the expedition under Berzin reached Nagayevo port; however, although at a fantastic cost in human lives, remarkable development of the Kolyma area was made. As early as 1946 it was clearly known that Dalstroy's extensive and many-sided activities were coordinated in a system of administrative organizations, each of which deals with a specific section of the region's economy--the centers of all these organizations are located in Magadan. At that time the following were known to exist: administrations of supplies, fish industry, coal, wood manufacturing industry, road building, agriculture, motor transport, and a few others. Essentially these administrations have the same task--they must insure uninterrupted operation and success in the chief industry of the region--gold mining, and with this ultimate goal in mind, they must supply all necessary materials and products. The ideal situation, as desired by Dalstroy and no doubt by Moscow as well, seems to be for Magadan to be completely self-sufficient and to turn over to the state all gold mined. As far as the fishing industry is concerned, it is known that fish is exported from Kolyma to Vladivostok. Attempts have been made to extract oil locally to supply motor transport in the region; however, there has been little success in this project although the presence of oil deposits in the area has been definitely established.

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Road construction was one of the primary tasks upon the initial efforts in Kolyma; just before World War II, another spurt in road building occurred. In 1939 the administration of road building was split into two independent organizations, one for the south and one for the north. By that time, the trunk highway from Magadan to Seimchan was being extended in the direction of the newer gold fields on the upper Indigirka River, and a number of side roads were also constructed to connect the main gold fields on the upper Kolyma River with the highway. Altogether, according to the best estimates, there were approximately 901 kilometers of paved roads in actual use at that time. However, this was inadequate, and in 1939-1940 a new plan of extensive road building was drawn up covering the construction of new roads in the extreme north, at the Kolyma estuary, and in the south, on the upper Kolyma, in the so-called "old" gold mining districts. In addition to new tributary roads, work was started in 1939 on the construction of a second motor highway from Dresva Bay on the Sea of Okhotsk to the gold-mining territory on the upper Kolyma. Even far more reaching were the plans for road construction east of the Kolyma estuary, in the tundra of the Arctic coastal region, down to the Bering Strait, where geological exploration had discovered gold fields of exception richness, perhaps exceeding those of the upper Kolyma. There have been no exact data concerning these plans; understandably, the information coming from the deep interior of the Kolyma region is generally far more scant than that coming from Magadan. However, at the beginning of the Russo-German War in 1941, all these plans for road construction were curtailed for obvious reasons. As has been indicated earlier, practically all construction activities were halted and many short-term prisoners were even sent back to European Russia where they served actively in the defense of the Soviet Union. In connection with the construction of roads just prior to the German

11 Ibid., pp. 110-111.

491 invasion, it should be mentioned that the history of the Nagayev harbor development, as cited previously, was again repeated.

316 The actual gold mining operations were controlled by a special gold mining trust within the Dalstroy organization.[1] In 1939-1940 this trust was composed of seven administrative agencies, each in control of its own area. These agencies were

1) The Southern Mining Administration, which had jurisdiction over sixteen gold fields, including the principal fields of Srednikan, Borisikin, and others;

2) The Northern Mining Administration, which was in charge of twelve fields;

3) The Western Mining Administration, which controlled twelve fields;

4) The Southwestern Mining Administration, with eight fields under its jurisdiction;

5) The Northwestern Mining Administration, with six fields under its control;

6) The Chai-Urinsk Mining Administration, with eight fields therein; and

7) The Tenkino-Detrinsk Mining Administration, with four fields. However, it should be noted that, although these seven agencies controlled and directed the activities of 66 gold fields, some of them are spread over such large areas that they should be called groups of adjacent gold fields. Furthermore, it should be borne in mind that the fields east of the Kolyma estuary, which in 1940 were only beginning to be exploited, have not been included in the above tabulation. Information in this respect is nil.

466 The total number of prisoners who work these gold areas[1] is not known; however, according to estimates by prisoners who have managed to return after having served their terms and fled to the west, the normal number of prisoners at each field varies between 5,000 and 10,000 workers. The number reaches its highest peak in May or June of each year: the mining season begins in June at which time new groups of prisoners are arriving at Magadan from Vladivostok. However, by the end of the mining season, the total figure has again decreased due to the heavy death toll; this has been corroborated by Polish prisoners who worked in the Kolyma gold areas after the Soviet-German division of Poland. These same Polish army troops mentioned a camp on the Chukotsk Peninsula, where some 3,000 Polish troops were sent in August 1940. However, all 3,000 died while working in the lead mines, not only due to the usual bad conditions but also due to lead poisoning. Therefore, assuming that the number of prisoner-workers per field averages some 5,000 persons, there is reason to believe that there were at least 330,000 prisoners engaged in gold mining activities in Kolyma. Of course, this figure represents only an estimate for the known gold fields; however, it should be remembered that this total will be swelled by the numbers of women prisoners who are engaged in various other activities like agriculture, lumbering, among others. (Note: No reference has ever been noted where women prisoners have been utilized in the gold fields.) Furthermore, since vast new areas have been in the process of exploitation, including the construction of roads, it goes without saying that additional large number of prisoners are utilized for this purpose; also, there are other mining areas, such as those east of the Kolyma, whereat no doubt large numbers of prisoners are also engaged. Consequently, although no exact figures

[1] [i.e., the Kolyma region, Siberia -- Analyst]

possibilities for transportation.

The sleds are very lightly built and represent true works of art. 493
The extraordinary performances in building such a "narta," as the sleds are named, consists in the fact that the only tool employed is a knife. No nails or glue are used; only simply cut wooden pegs and straps. There results from this an extraordinary elasticity, which also comes from the birch wood which is the primary material used. The type of narta for dogs is usually 2.70 to 3.00 meters long, 50 centimeters high, and 60 centimeters wide. In the runners, which are approximately 10 centimeters wide and 3 to 4 centimeters thick, there are on either side supports, which have cross-connections. On these connections thin boards are fastened lengthwise, and these boards form the floor of the narta. The front and back ends of the runners are bent up high and attached to a horizontal wooden arc, which has the same height as the boards and which forms the outer edge of the narta. The pulling straps are fastened to the front arc. The traveler either sits sideward on the narta with his legs hanging down or lies down on the sled with his legs stretched out behind him. The narta 492
has 11 to 15 dogs put to it, the number of dogs always being uneven. At the head runs the lead dog, who understands the orders of his master, who is clever, who is distinguished by his good orientation. Rescue from some danger in the vast wilderness is often due to the lead dog. The other dogs are tied in pairs to the drag line. The dog wears the pulling strap around his neck, but the strap is so arranged that the dog pulls with his chest. In order to prevent wear by rubbing /196/ the straps are wrapped in fur. So that the individual dog can't break loose sideways, each dog wears in addition a neck band which is likewise fastened to the pulling line with a light chain or a strap. A freight narta can be loaded with 2.0 to 4.5 centners. Lighter narta, which serve passenger traffic more, can as a rule not be loaded with more than 2.5 centners including the weight of the traveler. A narta with a load generally covers 4 to 6 kilometers in an hour, but with only one traveler and a team of 13 to 15 good dogs a narta can cover 10 to 12 kilometers, indeed even up to 16 kilometers in an hour. With one and the same team of dogs one can with good care cover a stretch of 500 kilometers without needing to take very long rests. Castrated dogs are usually used as draft dogs; female dogs are used only rarely since they often get sick and have only slight endurance.

Of greatest importance for the carrying out of a trip is the sled leader, the "kayur." He is no driver in the usual sense. Either he stands with one leg on the sled runner and lets the other leg dangle in

•492 in the air, or he constantly runs along beside the dogs, getting their harnesses in order or helping the dogs pull the narta up a hill. He is almost constantly in conversation with the dogs, whom he spurs on with flattery or also scolding words. The dogs love to be talked to. The kayur knows his dogs and his dogs know him. It is very difficult to travel with strange dogs.

The dogs are guided only by the words of the leader or with the help of the "ostol," a 1 to 1.5 meter long birch stick. Very very seldom is this stick used to spur the dogs on. Sometimes the ostol is used to prop the narta, sometimes it is used to stop the sled in order to avoid a collision with a tree. In the forest the kayur must always be on the lookout that a bird or a wild animal does not jump out from between the trees and frighter his dogs. Then the dogs rush away, and the traveler, if he falls off the sled, is lost in the vast wilderness.

A light type of narta is used as a reindeer sled in the entire coastal area of the east. These sleds differ substantially from the clumsy, heavy sleds of the Samoyed. In type of construction and in [493] lightness this reindeer sled is like the dog sled, only the reindeer sled is higher, wider, and shorter. Usually only two reindeer are used on light trips, and in such a case the pulling line is not fastened to the front bow of the sled but rather is only drawn through it so that the two animals are forced to use the same strength in pulling. A narta with two reindeer put to it carry a load of 4 to 5 centners. For the transportation of yurts or heavy burdens large nartas are used, which are pulled by 3 or 4 or even more animals and which can carry loads of 8 to 10 centners.

Under the same conditions the reindeer narta is as a rule preferred for longer trips, since the animals provide for themselves en route, while /197/ food for the dogs, fish as a rule, has to be taken along. Travel is very difficult with loose, deep snow since the animals sink into the snow and cannot go forward. In such cases the kayur goes ahead of the sled on broad Koryak snowshoes in order to tread down a path for the draft animals--dogs and reindeers.

A trip with a narta does not belong among the pleasures of life, as a trip by sled is depicted by the European. The trip is full of anguish when the land is uneven or when the wind has covered the plains with hard snowbanks. The narta is often thrown over, the kayur who wants to help falls down, the dogs whimper and howl because they are caught under the narta, the waving back and forth and the hard bumps cause headaches and nausea.

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In mountain areas where only narrow, often steep paths are available, the beast of burden shows his real value. Only the horse is used as such; the reindeer is used very rarely since it has a backbone that is too weak and is not suitable as a draft animal. The reindeer is very rarely used as a riding animal and then only by the Lamut. The saddle is up in front on the reindeer; thus the rider sits directly over the reindeer's front legs.

Recently the horse has been adopted more and more on Kamchatka and also on the coast of the Sea of Okhotsk, and here and there it has already displaced the dog as the draft animal.

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In summer, traffic in the entire north goes into the land from the coastal localities to which the coastal steamers make runs. The distances, therefore, are not so great, and the rivers make possible a further penetration into the interior.

The Kolyma has acquired a special significance in this connection; it is regularly traveled every summer to supply the gold districts. To be sure, the period when the river is navigable lasts only approximately three months. If, however, the entire coastal strip is covered with ice in winter and entire sections of the sea become ice wastelands, then the old means of transportation--dog sleds and reindeer sleds--still come into their right even today.

Sea Transportation and Ice Conditions along the Coast

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The extensive coasts of the Far Eastern regions are above all designed for sea transportation. This applies primarily to the entire coast north of the mouth of the Amur; the localities along this coast have only a very slight economic hinterland behind them or no such hinterland at all, and, therefore, in their development, indeed in part even in their obtaining supplies, these localities have been dependent on the sea route alone, which for most of them signifies the sole connection with the outside world. But the coastal localities of the Sikhote-Alin', too, have no built-up and easily passable land routes over the mountains to the thickly populated Ussuri-Khanka depression, and, accordingly, an exchange of goods for these localities is likewise only possible by the sea route. With /198/ this striking importance of sea transportation it is understandable that the Soviet Union has striven with all its powers to build up and to develop sea transportation. Unfortunately, as has already been brought out in the discussion of the climatic conditions, nature is not favorable to sea transportation on

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts. 563 177

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds. 101 563 [142] [291] [262] [493] [501]

Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their [262] chest but with their neck. The main food of the Gilyak is fish dried in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [441] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role: this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

509 and Vladivostok. An important line leads from Ulan-Ude to Ulan Bator in the Mongolian People's Republic with a stop en route in Kyakhta. Khabarovsk can be named as the special center of air transport. From here the air lines go the north. Regular flights are made to Komsomol'sk, Okha and Aleksandrovsk on Sakhalin, then to Ayan, Okhotsk, Petropavlovsk on Kamchatka, and Anadyr' in the extreme northeast. However, the air transportation also performs purely economic tasks. Thus regular flights are made to the gold fields on the upper Barguzin from Ulan-Ude and to the gold regions on the upper Vitim (Taipikan) from Chita. Also the polar stations along the coast of the Arctic Ocean are supplied by airway. Beyond the regular lines, occasional flights are also made into the remotest regions. In the summer seaplanes are also used; they fly along the great rivers and can go down on the water at all times and everywhere. In winter, on the other hand, airplanes are used which are equipped with gliders /Gleitscheinen/ which enable the planes to land on slick ice and snow surfaces.

/195/ Tranportation of the North

489 The vastness and the slight population of the entire vast north has made it unnecessary to build routes apart from some few overland roads; and accordingly the entire area can be designated as without routes of any kind. Traffic here is accomplished within moderate limits on natural routes through the forests, on narrow paths through the mountains, and in the open tundra areas via the open plains. As a consequence of the great dampness and the heavy formation of swamps, all forms of land transportation cease in summer in many places, and transportation is then limited to boat traffic on the rivers, which during this season offer the best means of transportation. Many localities are often cut off from the outside world for weeks and months. The transportation of goods is completed primarily in the winter, which constitutes the main traffic period for the entire north. These pathless regions begin already in the northern part of the Amur region, and in the Amgun area even reach the Amur itself. Characteristic [493] for these regions is the sled as the main means of transportation, while the characteristic draught animal is the reindeer or dog, or less commonly the horse. These are means of transportation such as have been developed by the native Tungus and Paleoasiatics; and they have to be used also by the Russians for trips and for the transport of goods, because in the present state of development there are just no other possibilities for transportation.

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clearly manifest here; indeed, the distance and the remoteness of this region from the economic centers of the total union even force them to pursue this policy. In this, a role is not only played by the basic thought of populating these remote but well-situated regions, but also of making them as self-sufficient and strong economically as possible. The opportunities which are given the Soviet Union here cannot be estimated. They are great; only time is required to exploit them.

In connection with the above statement the unique position which the Far Eastern transportation network occupies within the Soviet Union as a whole, deserves to be brought out. A look at the map shows that the entire, complicated railroad network in the western part of the Soviet Union comes together into a single railroad line as it heads toward the Far East. This crosses the Yenisey at Krasnoyarsk and runs as far as Ulan-Ude in Transbaykal. Only here does it begin to split up and to develop into a transportation network, insofar as one can speak of such a thing in the Far East. On this single railroad line, which does, however, have two tracks, depends the entire connection of Transbaykal and the Far Eastern region with the rest of the Soviet Union. Even the completion of the Baykal-Amur line does not eliminate the bottleneck at Krasnoyarsk, and accordingly /15/, a certain self-sufficiency is the result of the development of the railroad network in the Far East.

Transbaykal and the Far Eastern region represent the extreme border position of the Soviet Union in East Asia. As remote border regions, they are really the Far East for the European part of Russia. One sees the sun rise and set eight times before one, coming from Leningrad in the Siberian Express, reaches Chita, the capital of Transbaykal, and another day and a half passes before one arrives in Vladivostok. More than 8,000 kilometers by air lie between the western and eastern borders of the Soviet Union. Chita is 6,236 kilometers by railroad from Moscow; Vladivostok is 9,333 kilometers from Moscow via Khabarovsk, and still 8,312 kilometers via the north Manchurian line by direct route.

But even within the Soviet Far East, a distance which seems extraordinary to the European has to be covered to travel from one end to the other. There are around 2,500 kilometers between the southwestern tip of Lake Baykal and the mouth of the Amur, and the airline from Pos'yet Bay, southwest of Vladivostok, to Cape Dezhnev on the Bering Strait is almost 5,000 kilometers long. Sakhalin Island

without any additional reasons. It must also be assumed as obvious that Buryat-Mongol relationships in the Soviet Union served as a model in the formation of the Mongolian People's Republic and its organization into a state, and also that thereby the influence of the Soviet Union has grown far beyond its political borders.

Land Transportation

Transportation acquires a striking importance with the size of the area. The development has shown that the transportation installations were not created because there was a necessity based on the economy of the region itself, but rather that the transportation-political standpoint of the entire state was decisive for the various transportation installations. The Amur railroad and also the Ussuri railroad were for their part built through regions which were often completely uninhabited or settled only extremely slightly. Only with the construction and after the completion of these railroad lines did people stream in in larger numbers, and accordingly the railroads became pacemakers for the colonization and development of the economy. Even today it is still so. Connection with the transportation system is the necessary condition for winning new settlement areas and for exploiting the rich natural resources of this vast land.

With the slight density of population, transportation installations, such as for example the railroads, which required a great expenditure of capital and labor, often /183/ prove themselves to be unsupportable economically, unless these installations correspond to another, higher point of view, or are built for the future in a far-sighted fashion. In both cases it is up to the power and the enterprising spirit of a great state organism to carry out mighty tasks of this type. That was the case with the old Russia and it is also the case with the Soviet Union. At any rate the slightness of the railroad network goes back to these reasons. In contrast to these, however, the transportation installations, whose introduction required only slight outlays of money, are much better developed. To this category belongs water transportation, whose present state, according to the judgment of Soviet specialists, exceeds even that of the European part of the USSR. Also in this category is air transportation.

The railroads are the main bearers of the traffic. The eastern part of the Trans-Siberian Railroad constitutes the main vein. It runs from Lake Baykal via Ulan-Ude and Chita across Transbaykal, and then,

49 always at some distance from the Amur and the Ussuri, it runs to Vladivostok. In Karymskoye, east of Chita, the Manchurian line branches off from the Trans-Siberian Railroad. The Manchurian line leaves Soviet Russian territory after the border station of Otpor and runs via Harbin to the southeastern part of Manchuria. At Grodyekovo it again enters Soviet Russian territory and in Voroshilov (Nikol'sk-Ussuriski) it meets the Ussuri Railroad.

In terms of administration the railroad lines are under four directive bodies and bear different official names:

1. The East Siberian Railroad. The central administrative office is in Irkutsk. Its sphere stretches from Tayshet to Kizhi, and lies on the administrative border between the Buryat-Mongol ASSR and Chita Oblast. Under this directorate the total length of railroad lines, including side railroads, is 1,304 kilometers.

2. The Molotov Railroad. Its administrative seat is in Chita. Its administrative sphere extends from Petrovsk (the first station east of Kizhi) to the Ksen'yevka station on the upper course of the Black Uryun. The total length of the railroad line is 1,330 kilometers.

3. The Amur Railorad. Its administrative seat is in Svobodnyy. Its administrative sphere extends from Ksen'yevska up to but not including Arkhara station, which is east of Bureya. The total length of its railroad line is 1,498 kilometers.

4. The Far Eastern Railroad. Its administrative seat is in Khabarovsk. Its administrative sphere extends from Arkhara to Vladivostok. The total length of its railroad lines is 1,989 kilometers.

This purely administrative division is very impractical from a geographical point of view. Therefore from way back a division into three has seeped in, namely: 1. The Transbaykal Railroad from Mysovaya, where it leaves Lake Baykal, to Kuenga, where the railroad turns to the north from the valley of the Shilka and from here begins to follow the course of the Amur; 2. the Amur Railroad from Kuenga to /184/ Khabarovsk; and 3. the Ussuri Railroad from Khabarovsk to Vladivostok. The above classification of the individual railroads is used in this work.

Since the route via Manchuria (Harbin) to Vladivostok is about 1,000 kilometers shorter than the indirect route via Khabarovsk, the main traffic from the Soviet Union to the east takes the Manchurian route; and to the Amur and Ussuri railroads there remains only a secondary, more local rank. Since they, however, run through Russia's own territory, they receive the task of maintaining a second position, a

substitute line, which is put into action immediately if the first railroad line is disturbed for any reason. This was the case during the period of Japanese rule in Manchuria from 1931 to 1945. It was during this period that the pressing necessity of a second track for the eastern part of the Trans-Siberian Railroad first arose. The second track for the stretch from Ulan-Ude to Urusha (1,570 kilometers) was laid from 1933 to 1935; the stretch from Urusha to Khabarovsk (1,314 kilometers) was laid from 1934 to 1936; and the stretch between Khabarovsk and Vladivostok (768 kilometers) was not laid until 1936 to 1939. The North Manchurian Railorad, on the other hand, was built with two tracks from the beginning. Of greatest importance is the fact that the Russian track width was not changed in Manchurian territory from 1931 to 1945, and, accordingly, the railroad line was available for the use of the Soviet Union immediately after the end of World War II. In the period from 1905 to 1945 the Japanese changed only the South Manchurian Railroad (Harbin to Dairen) to the Japanese track width (normal tracks), while the North Manchurian Railroad was always traveled by Russian locomotives and Russian railroad cars. 496

The construction of the Transbaykal Railroad began in 1895 and was supposed to be completed in 1898. However, a flood, such as Transbaykal had never experienced, caused such extensive damage that it was only in 1900 that traffic could cover the entire stretch. Construction of the line was very difficult. The ground in Transbaykal is permanently frozen and thaws in the summer only to a depth of one to two meters. As a consequence of this, the work had to be done during the warm part of the year with dynamite under the thawed out layer of earth; this turns the thawing masses of frozen earth into a thick porridge /Brei/. The installation of water conduits was especially difficult. In order to prevent freezing, the water pipes had to be laid in wooden galleries which could be heated. Since according to the construction specifications only Russian materials could be used, these materials had to be procured in part via Vladivostok and Khabarovsk. For this purpose state shipping was established on the Ussuri, Amur, and on the Shilka as far as Sretensk. This resulted at the same time in a permanent opening-up of this waterway. 497

The section from Sretensk to Khabarovsk was originally envisaged as a continuation of the Transbaykal Railroad to the east. The marking /185/ out of this line, however, pointed up such great difficulties and such unfavorable economic conditions that this plan was

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in the construction, attained brilliant results not only because many millions of rubles remained in the country but also primarily because it fostered colonization. Many thousands of workers, who were recruited from Russia, learned to know the Amur country and settled in the land after the completion of the construction. [167]

/186/ The Trans-Siberian Railroad leads through the most important localities in the Far Eastern region. The distances between the most important localities are as follows in railroad kilometers: Irkutsk--Ulan-Ude, 490 kilometers; Ulan-Ude--Chita, 554 kilometers; Chita--Khabarovsk, 1,428 kilometers; Khabarovsk--Vladivostok, 768 kilometers; Karymskoye--Otpor (border station), 366 kilometers; Karymskoye--Harbin--Vladivostok, 1,981 kilometers. 496

A number of branch railways lead from the main line to localities which are important economically or in terms of transportation. On the Transbaykal Railroad and the Amur Railroad the following, from west to east, are to be cited.

Ulan-Ude	--Naushki (Mongolian border)	225 kilometers
Petrovsk	--Balyaginsk (iron ore)	19 kilometers
Tolbaga	--Khalyarta (coal)	8 kilometers
Ingoda	--Ilidigun (wood, agriculture)	52 kilometers
Priiskovyy	--Nerchinsk (city connection)	10 kilometers
Kuenga	--Sretensk (Shilka harbor)	55 kilometers
Pashennaya	--Bukachacha (coal)	73 kilometers
Skovorodino	--Dzhalinda (Amur harbor)	60 kilometers
Ushumun	--Chernyaye (Amur harbor)	38 kilometers
Kuybyshevka	--Blagoveshchensk (Amur harbor)	109 kilometers
Bureya	--Raychikhinsk (coal)	43 kilometers
Arkhara	--Innokent'yeva (Amur harbor)	35 kilometers
Izvestkovyy	--Ust'-Tyrma (coal)	190 kilometers

Of these lines the railroad from Ulan-Ude to Naushki is of the greatest significance. It was completed in 1939 and leads to the Mongolian border. Since then it has been lengthened to reach Ulan Bator (Urga), the capital of the Mongolian People's Republic. Then, in addition, various side lines have been created in the last few years. Thus a railroad line leads from Skovorodino over 150 kilometers to Tyndynskiy in the area around the upper course of the Gilyuy, and there is supposed to be a connection to the new Baykal-Amur Railroad (BAM). Also the Izvestkovyy--Ust'-Tyrma line named last in the above list

•496 has since been extended via Chekunda to Ust'-Niman in the upper area of the course of the Bureya, and today this line has probably already reached the wolfram-molybdenum plant at the mouth of the Umalta. In addition to its local task of opening up the Bureya coal fields, this railroad line is also regarded as a cross connection from the Amur Railroad to the BAM, which, according to the original plan, was to cross the Bureya at Chekunda. Furthermore, two new railroad lines from the Amur Railroad to the Amur River have been built, one from Zavitaya to Poyarkovo, which at the same time offers a new opportunity for transporting things from the brown coal district of Raychinkhinsk; and one from Birobidzhan to Leninskoye.

The opening up of the lower Amur country was also served by a railroad only completed in the last few years; this line leads from Volochayevka, always at some /187/ distance from the Amur and on the left side of the Amur, to Komsomol'sk, the new industrial city with much promise. On the right bank of the Amur, approximately opposite Komsomol'sk, there begins then at Pivan the great wooden railroad line which crosses the Sikhote-Alin' and then leads in a southeasterly direction to Sovyetskaya Gavan' (Soviet Harbor) to the coast of the Sea of Japan. In Komsomol'sk a railroad ferry joins the two lines.

From the Ussuri Railroad several wooden railroad lines penetrate into the Sikhote-Alin'. The branch from Manzovka to Turiy Rog should be named as the most important side line; for this line opens up the rich agrarian territory on the western side of the Khanka Lake. The environs of Vladivostok, which are rich in coal, are crossed by several lines. The most important branches off in Ugol'naya north of Vladivostok toward Suchan in the east, and with two sourthern branches in Dunay and Nakhodka it reaches the sea coast. In the last few years still another railroad line has been built which branches off in the north from Vladivostok, extends approximately along the west coast of the Bay of Peter the Great and ends in Kraskino at the Pos'yet Bay.

The greatest railroad undertaking of the present is the Baykal-Amur Railroad, which has already been mentioned. It is abbreviated as BAM (Baykal-Amur-Magistrale). A veil of secrets surrounds this railroad, which has been under construction since 1938 with its length of around 3,500 kilometers and which, according to various reports, which, however, are not reliable, is supposed to have been completed. It begins at Tayshet station which lies on the Siberian Railroad between

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Kansk and Nizhneudinsk, and leads via the Angara to the upper Lena, which it leaves before the mouth of the Vitim in order then to follow the Vitim to the mouth of the Kalar. The line then crosses the Kalar Massif toward the east, crosses the Olekma at the mouth of the Nyuksha, and extends to the valley of the Gilyuy, along which it runs as far as the mouth of the Gilyuy at the Zeya. Then the railroad line follows the breach valley of the Zeya through the Tukuringra Mountain Range toward the south and finally turns again toward the east. The Selemdzha is crossed at Norsk, the point at which its navigability begins, and the Bureya is crossed at Chekunda, the center of the greatest hard coal deposit in the Far Eastern region, a deposit which is just beginning to be opened up. The BAM ends in Komsomol'sk on the Amur. Various cross lines are supposed to provide a connection with the Amur Railroad, and of these two have already been completed. In its course, the BAM cuts through forested areas which are rich in wood but are still completely untouched; in the northern part of the Amur country the BAM crosses through the most important gold fields; and it opens up important deposits of natural resources. The construction difficulties are supposed to be extraordinarily great. It is a railroad of the future, and it is to be expected that gradually a belt of settlements will come into being following the railroad line; the railroad workers set up in permanent dwelling places, even now constitute the basis for such a belt of settlements.

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Since the main railroad lines and also the main water veins /188/ cross through the zone of settlements in the longitudinal direction from west to east, built up land routes in this direction are rare. The old Siberian tract, which before the construction of the Trans-Siberian Railroad crossed through the entire region in the longitudinal direction, has long since lost its significance as an overland route and today serves as a local connection. The Ussuri section is an exception. In the last few years this has been rebuilt from Vladivostok to Khabarovsk as an automobile highway with a firm understructure to supplement the railroad line. On the quality of this route a report says that approximately 18 hours are required to travel the approximately 770 kilometer long stretch in a passenger motor vehicle. Furthermore the greatest attention in the last few years has been devoted to extending this highway: above all it has been extended from Khabarovsk to Komsomol'sk and undoubtedly represents the most important highway in the Far East. Most of the remaining land routes have more the character of feeder routes; but regardless of this these routes are of great economic importance

361 this city almost 25 percent of the total population of the Buryat-Mongol
[397] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole
[253] Far East. Supported by the Buryat's important breeding of livestock, the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large
[328] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a rail-
[376] road, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here
[313] again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ 1 /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over
487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak
491 (Chinese: Maimachen). This overland route, expanded into an auto-
● 496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this
491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

rolling with gentle rises toward the edges. In the ground lies a granite foundation, over which is liparite and tuff, covered over by a thick layer of lacustrine deoposits, which point to the formation of the steppe basin from a former lake (Gladtsin, 69). Striking is the present day /33

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science, (Moscow, 1938), p. 174.

dryness, which forms a sharp contrast to the forest landscapes surrounding the steppe island. The low position (620 to 680 meters above sea level) as a depression between the contiguous mountain chains, may well be the reason for the special climatic conditions prevailing here. The fertile steppe stil, in many cases designated as black earth, has lead to thick settlement, and, accordingly, the grass steppe only rarely now shows itself in its original dress. The levelness of the steppe is interrupted only by flat, mostly dry valleys with gentle slopes. /224/ In the deeper places there appear damp meadows, often swamps, and also not uncommonly even salt-pans. The slopes of the valleys sloping [137] to the north are overgrown with birches, poplars, meadows, and bushes, especially if the valleys have the character of a ravine. The transition to the forest landscapes occurs quickly. However, the souther slopes remain free of forests the longest and often appear in contiguous taiga as small forest steppe islands. Toward the Shilka the steppe plain breaks off with a steep, heavily valleyed, high step, which from the river often gives the impression of a mountain land. Next to the dairy and meat economy, the cultivation of grain stands in first place in the agriculture of the steppe island. The economic center is Nerchinsk [361] with its mill plants, brandy and alcohol distilleries. In terms of transportation Sretensk has a better location, for there the regular Amur shipping begins. West of Sretensk in Kokuy there is a shipyard.

The Transbaykal Railroad runs from Nerchinsk on further on the 49 left shore of the Shilka as far as Kuenga, and from here a branch railroad leads to Sretensk. The main railroad line, which from here on bears the name of Amur Railroad, leaves the Shilka Valley at Kuenga and circumscribes the Shilkinsk Mountain Range in a great arc. Here 316 in the north, lying in a side valley of the Kuenga and connected by a railroad line, are the coal mines of Bukachacha, which in their production stand in first place in Transbaykal, and farther to the east around the Mogocha Station lie extensive gold fields.

There are Russian settlers only on the outer edge of the region[1] in the valley plains of the main rivers; the entire, vast interior, on the other hand, is completely uninhabited. [33] [361] [496]

The Manchurian Railroad branches off from the Karymskoye station between Chita and Nerchinsk. This railroad strikes the direct route to Vladivostok via Harbin. The last Soviet Russian station is Otpor, which /227/ lies opposite the Manchurian border. The railroad runs directly to the southeast and, in the process, crosses over all the mountain ridges almost at a right angle. After the Borshchovochnyy Mountain Range, there follows the Gazimur-Onon ridge, which reaches south of the Gazimur River to the Argun, and then the Erman, Nerchinskiy, Klichinskiy, and finally the Argun mountain ranges. All these mountain ridges run in the direction of Lake Baykal and run almost parallel to one another. The Gazimur-Onon ridge extends along the middle course of the Onon on the north side of the river until the break through of the river. The Gazimuro-Onon ends on the Argun between the Gazimur on the north and the Uryumkan on the south. It is never over 1,000 meters high. The Erman Mountain Range is already divided into two parts by the Tarey Basin which has no outlets. In the picture of the landscape of the entire region a gradual change is apparent from northwest to southeast, and also one from northeast to southwest.

From northwest to southeast, i.e., in the direction of the Manchurian Railroad, the ridges gradually become lower, the differences in height decrease. The coniferous forests and likewise the swamps disappear. A striking wealth of birches enters, covering first the ridges, then only the northern slopes, and finally making way for the pure steppe. In the process salt-pans can already appear in the depths.

To the northeast, toward the Argun, all the mountain chains become higher, the Erman Mountain range reaching up to 1,400 meters, the Nerchinskiy Mountain Range reaching up to 1,300 meters, and the Argun Mountain Range reaching 900 to 1,000 meters. In the regions whose waters empty into the Argun, especially in drainage areas of the Gazimur, Uryukan, and Urov, the land has the character of a medium mountain range with peaked heights, deeply etched river valleys, and larger relative differences in height (300 to 500 meters). The undeveloped water network with great drops and numerous stony current rapids and waterfalls points to a recent elevation of this region, whose landscape can be designated as the Argun type. Toward the southwest the absolute height of the ridges decreases, the relative differences become smaller (100 to 150 meters on the mean), the valleys become wide, the rivers form great arcs and numerous meanderings.

[1] [i.e. in the area between the valley of the Ingoda, Chikoy and the Onon -- Analyst]

permafrost, however, create great difficulties. Development of the area is hampered by the area's remoteness and the difficulty of gaining access to it, since the break-through valley of the Zeya toward the south represents the sole gateway to the depression. To date the supplying of the area has been done on the water route as far as the locality of Zeya, for the Zeya River is navigable to this point. The supplies are then brought by vehicles further up the river. The area around the upper course of the Gilyuy is crossed by the highway from Never to Yakutsk. This highway crosses the Tyndinsk, a tributary of the Gilyuy, at Tyndinsk. The new Baykal-Amur Railroad, coming from the Nyukzha valley, is also supposed to enter the valley of the Gilyuy at the same place and to follow the Gilyuy as far as the Zeya, in order then likewise to use the Zeya's break-through valley as an exit toward the south. The laying of this railroad line through the Zeya-Gilyuy depression is expected to lead not only to better opportunities for exploiting the gold fields but also to the use of the rich supplies of wood in the forests, and finally also to better settlement of the area.

/240/ The depression of the upper Zeya and Gilyuy is cut off into a vast basin on the south by a watershed mountain chain. The Zeya is the sole river flowing off to the south in this basin. This mountain chain is regarded as a continuation of the Daur and the Shilka mountain ranges; it stretches from Transbaykal via the Olekminsk Stanovik to the depressions of the Amgun (left tributary of the lower Amur) (207). This entire line of mountain ranges was, according to

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, 2 vols., (Odessa, 1923), p. 250.

Ahnert (16), formed partly by faulting but principally and especially

16. Anert /sic/, E.E. Kratkii geologicheskii ocherk Priamuria /Short Geological Sketch of the Amur Region/. Geological Research in the Gold Regions of Siberia, Vol. XVII. Petersburg, 1913.

on the southern edge, by break formations. Within the Oldoy-Zeya Highland the chain of mountain ranges begins in the west with the Yankan Mountain Range, which lies between the upper courses of the

133 northern edge it represents.

The Oldoy Highland is the smallest part of the region as a whole, and it comprises the area between the Yankan Mountain Range and the Amur. Already from the region around the source of the Oldoy toward the south the landscape flattens out and dissolves into individual ridges, mountains, and valley areas, giving the overall impression of a mountainous and hilly landscape. Toward the southeast, between the Urkan and the Amur, the broad hill ridges gradually disappear altogether, and the landscape here flows into the so-called Amur-Zeya plateau, which already belongs to the greater landscape of the Zeya-Bureya plain area.

491 The Oldoy Highland is traversed in the north by the Amur
496 Railroad, from which a railroad line to the Amur harbor of Dzhalinda branches off in Skovorodino (more than 20,000 inhabitants), the seat of a railroad office. Thus, in terms of transportation, this region is quite well opened up. This is also true of the most heavily populated parts within the overall region. The alluvial sands of the rivers to the north of the Amur Railroad, especially the valleys of the upper Oldoy, and of the Great and Lesser Urkan, are rich in gold. The built-up highway which is mentioned above and which can be used throughout the year, leads from the station of Never (around 10,000 inhabitants). This highway crosses the Tukuringra Mountain Range and the Stanovoy in its western part and goes via the Aldan gold fields to Yakutsk. It reaches Tyndinsk in the area around the upper course of the Gilyuy. This important highway has recently been supplemented by a railroad line from Skovorodino to Tyndinsk, where there is a spur to the great Baykal-Amur Railroad (BAM). With this a direct cross-connection between the Amur shipping and the BAM is supposed to be created. The new railroad line, in addition, opens up new areas for settlement, just as the construction of the Amur Railroad has become a pacemaker for heavier settlement by an agricultural population. Also in the less swampy valley areas between the railroad and the Amur River agriculture is
361 pursued relatively actively. Accordingly, a lively food industry and also machine building shops and repair shops have been able to develop in Skovorodino, which has already been named as the center of the Oldoy Highland. Brown coal, which is mined in the vicinity, is used as the raw material for energy. To the north of the city tin supplies
[509] have been determined. An airfield in the vicinity connects Skovorodino to the great airline running from Moscow to Khabarovsk to Vladivostok.

361 Only in the southeast in the triangle between the Amur and the lower Zeya is there an agricultural settlement covering an area of any size. In the rest of this region a zone of settlements with many gaps accompanies the Amur and the railroad.

●49% The Amur Railroad runs approximately along the middle of the plateau and uses the watershed exactly, since along the watershed there was, for understandable reasons, the best and the easiest opportunity for marking off. A branch railroad, 38 kilometers long, leads from Ushumun station to Chernyayevo on the Amur, in the center of a region with great prospects for the future, for here only a few years ago hard coal deposits were determined. These deposits stretch along the left side of the Amur between its tributaries, the Urinda and Magdagachi, i.e., approximately around the locality of Chernyayevo mentioned above. The coal is of Jurassic age and lies in individual anticlines, which stretch toward the northeast. Although, judging from individual tests, the ash content of the coal is supposed to be great, the deposits have a prominent significance because they lie in a region /243/ /Sketch Map of the Amur Oblast:/ which formerly had to be supplied with coal from a great distance. In some places the coal-bearing layers are broken through by granite laccolite and porphyry effusions, and thus the coal here has been transformed into valuable semi-anthracite and full anthracite. Nothing is known of the total supply in the deposit designated by the Russians as the "Upper Amur Coal Basin." There are numerous outcroppings on the Amur and in the individual river valleys. Very recently the mining of the coal deposits in the vicinity of Madgagachi has begun.

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361 The principal locality in the northwestern part of the plateau is Magdagachi (approximately 10,000 inhabitants); the principal locality in the southeastern part is Shumanovskaya (approximately 25,000 inhabitants). Both of these towns lie on the Amur Railroad.

487 The Tygda station between Madgadachi and Ushumun has greater significance in terms of transportation. A land route leads from Tygda via Ovsyanka, which lies at the point where the Zeya and the Urkan flow together, to the Tukuringra break-through of the Zeya. This is the shortest land route connection from the Amur Railroad to the gold fields on the upper Zeya and the Gilyuy.

133 /244/ East of the lower Zeya begins the Zeya-Bureya Lowland, which stretches toward the east along the Amur over a broad area extending beyond the lower course of the Bureya. The end of this low plain is prepared by the high embankment of the Bureya Mountain

Region/. Pochvovedniie, 1911.

133 The northern part of the Zeya-Bureya plain lies generally below 500 meters above sea level and declines toward the lower Zeya and the Amur, /247/ /Sketch Map:/ /248/ where the greatest part lies at less than 200 meters above sea level. At Blagoveshchensk the Amur has a height of 120 meters. In individual places the substratum comes out from the flatly deposited Tertiary layers in the form of individual rocks, which consist of granite, Jurassic conglomerates and Jurassic sandstone, or also of porphyry.

The great dampness of the Zeya-Bureya plain, which arises from the excessive summer rainfall, leads in the unlevel regions to hanging landslips and solifluction phenomena of manifold types, which cause great difficulties in the construction of roads and installation of railroads, especially when--as, for example, in the country of mountain spurs--permafrost appears. The peasant fights constantly against threatening swampiness by draining his land. Despite these [311] difficulties, the area under cultivation is increasing continually. The swamps, which as a rule are covered with clusters of grass, are turned into hay fields by fires set off every year, and these hay fields in turn are then turned into cultivated land.

361 Settlement is very thick, and in the valley area of the Zeya, Selemdzha, and Bureya it penetrates farther and farther into the interior. In the plains one can often see from one village to the next one. The settlements differ in no respect from those in the Russian homeland. And when in mid-summer sunflower fields glow between the yellow gold of wheat fields, one might feel himself transported [244] to southern Russia. The cultivation of soy beans and perilla, which here lays claim to a significant percentage of the area under cultivation, [496] appears foreign, however. The railroad crosses the Zeya at Svobodnyy (10,000 inhabitants), where an active wood industry has developed. A branch railroad, which is 108 kilometers long, leads from Kuybyshevska with its more than 10,000 inhabitants to Blagoveshchensk (58,700 inhabitants), the capital of the region. The city extends along the shore of the Amur for a distance of almost 8 kilometers, toward the mouth of the Zeya. The Zeya here is 2 kilometers wide and exceeds even the Amur into which it flows. The city is the center of the entire agricultural area and has numerous flour and oil mills. In addition, the processing of lumber also plays a large role. The lumber is floated here on the Zeya and the Amur. Opposite Blagoveshchensk,

on the Manchurian side, lies the city of Heino (Sakhalyan), from whence there is a spur to the railroad network of Manchuria. The area around the lower course of the Bureya has the same character in terms of landscape as do the plains on the Zeya. The nearness of the highland permits the basic rock to come out more often here. The population is likewise dense and in the valley of the Bureya penetrates farther toward the north into the highland. The center of the region is the little city of Bureya, which lies at the point where the railroad crosses the Bureya River. A railroad line, which is 43 kilometers long, branches off from here to Raychikhinsk, the center of the largest brown coal deposit in the Amur country. Zavitaya, from which a new railroad line has been built to Poyarkovo on the Amur, /249/ has acquired a growing importance during the most recent period.

The brown coal fields lie between the railroad and the Amur and stretch from the Bureya in the east to the Zavitaya in the west, covering an area of 600 square kilometers. Raychikhinsk and Kivdinskiy are the centers of the coal mining. The transporting of the coal is done for the most part by railroad to the Bureya station, where there are opportunities to transfer the goods to river shipping.

The northern part of the Zeya-Bureya plain is drained primarily by the Selemdzha. The population here decreases rapidly toward the north, and settlement is limited to the valley areas of the rivers. On the Zeya, settlement reaches to the town of the same name at the foot of the Tukuringra Mountain Range; and on the Selemdzha, settlement ends approximately at Norsk. Both rivers are regularly traveled by steamships as far as the localities named. With the new construction of the BAM, which goes from the middle Zeya and runs through the area toward the east and crosses over the Selemdzha at the locality of Norsk mentioned above, new prospects have opened up for the further development of these regions, which are favorable for settlement but which in the past were too remote.

The Bureya Mountain Country

The Bureya Highland has a central position in the Amur country. It forces the Amur to make its large southern bend; and, in the south where it joins the Little Khingan, it makes a path to the east free for the Amur only in a narrow break-through valley. In the same place the Bureya Highland shoves itself like a wedge into the great depressions running along the Amur and separates the Zeya-Bureya plain in the

137 in constantly from the sea in the summer, have given these forests a peculiar appearance. The branches are covered with long lichen, which hang down like beards, and moss grows on the stems as far as the boughs. A thick layer of moss also envelops the earth, and with every step water springs from the damp cushion. In the deeper places and also in the middle part of the highland, larches then appear as forest-formers, and the forests gradually become purely larch forests, and also fill the valley areas as far as the middle courses of the great rivers and press far to the south. The reason for this can be seen above all in the fact that the cold air masses flow down into the valleys and thus prevent the expansion of other types of trees. Only on the lower courses of the rivers flowing toward the south do deciduous trees set in. The larch forests which cover the bulk of the Bureya Highland are economically the most valuable.

316 The valley of the Niman was once among the most famous of the gold fields in the Far East. But the deposits are already exhausted. In their place the gold fields in the area around the upper course of the Bureya have now appeared, but these cannot compete in yield with those of the Selemdzha. The valley of the Bureya serves as the con-
505 necting path to the gold dressing installations. When the water level is good, the Bureya can be used by steamers for 345 kilometers as far as the locality of Chekunda, and occasionally even as far as Umal'ta. From Chekunda down the greater drops already work so strongly against water vessels that from here on the boats as a rule have to be drawn by
487 horses. The last part of the way then is traveled by car or with riding horses and pack horses. An extension of this route toward the east leads over a pass, which is more than 1,000 meters high, to the gold fields on the upper course of the Kerbi, a tributary of the Amgun, which already belongs to the lower Amur. This much-traveled old Bureya gold route has today for the most part lost the importance it once had, since rich deposits of molybdenum and especially of coal have been found in the valley of the upper Bureya and a railroad has been built there.

316 There is molybdenum in the valley of the Umal'ta, a left tributary of the upper Bureya. Here a great molybdenum works has been erected in Ust'-Umal'ta. The hard coal deposits fall into two parts, into the deposit on the upper Bureya and the Tyrma deposit, which are separated from one another only by tectonic occurrences with
• 496 succeeding erosion. For the /252/ opening up of these deposits a railroad line is being built from Izvestkovyy, which lies west of Birakan on the Amur Railroad. This new railroad line leads over the Bureya

Mountain Range to the upper course of the Tyrma and then follows this river to the point where it empties into the Bureya. The railroad had already been completed as far as Ust'-Tyrma in 1942. Since then the construction of this railroad, which now runs parallel to the course of the Bureya, has been continued via Chekunda to Umal'ta. With this an outlet has been created for Bureya coal toward the south to the Amur Railroad, but the waterway of the Bureya is also used to transport the coal away. The expansion of this waterway is being worked on. In addition, there is the fact that the Baykal-Amur Railroad also crosses the same region. This railroad leaves the Selemdzha at Norsk, crosses the Turana Ridge and reaches the middle course of the Bureya at Chekunda, to continue further over the Bureya Mountain Range to Komsomol'sk.

The construction of both these railroads in the sphere of the Bureya Mountain Range has above all an industrial significance. Next to coal, wood is the most important item for transport which this region can supply. In the traffic going the other way, the bringing in of food is probably the main task of the railroads. The Bureya also plays a certain role in this connection; for, according to various reports, continuous loads of grain go up the river during the period when it is navigable. The supplying of the new Bureya coal region must be assured from outside because the Bureya valley itself is very unfavorable for agricultural settlement. Everywhere here the Bureya has the character of a mountain river. Its valley between Ust'-Umal'ta and Ust'-Niman is up to 3 kilometers wide, but the river, which here is very wild, regularly floods a part of this country and causes extensive swampiness. From Ust'-Niman to Chekunda the right bank is steep and rocky; the left bank is, to be sure, level, but it is taken up by swamps which are difficult to travel. Below Chekunda as far as the settlement of Paykan the valley narrows, and on both sides the rocky mountains come right down to the shore. Only shortly before leaving the mountain ranges does the valley meadow widen into an area favorable for settlement. Thus the prospects for agrarian settlement in the area of the Bureya valley are not very good, and it will require long years of difficult cultivation work before the new coal mining region will be able to supply its own food.

If we survey the entire Bureya Highland, then, it can be determined that, apart from the spottily occupied gold regions in the north and apart from the Bureya and Tyrma valleys which are now filling up with people in a limited area, the other regions are as good as

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has re- [161] ceived its name. By 1939 it already numbered 70,000 inhabitants, and [346] and today its population is estimated to be more than 150,000. The city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [377] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire 361 area around the lower Amur. Already several years ago the city was 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

cultivated plants also flourish with great success. Very recently new sowing and cultivation machines have been employed by the Soviet in the entire Far Eastern region, which is damp in the summer. These machines take account of all the conditions of that area. In the expansion of the cultivated areas devoted to soy beans, rice, beans, millet, etc., it has been shown that there has been more conversion to these in more recent times, following natural conditions. The noxious fungus, which prefers to attack the European types of grain, such as wheat, barley, and oats, has already been pointed out. This grain disease occurs in those damp warm regions in especially rainy years. As Arved Schultz (181) has observed, it is very characteristic

181. Schultz, A. Das Ussuri-Land./The Ussuri Country/. Königsberg, Prussia, 1932.

that the fields of the Korean and Chinese peasants are attacked less than the fields of the Russians. There must, therefore, also be some reasons for this. In addition the fight against the Fusorien, of which a total of 22 types have been determined to date, has been taken up by the Soviet.

In contrast to the little populated eastern and southern sides of Khanka Lake, the Tertiary hilly country to the west of the lake is thickly populated and is among the best agricultural regions. A railroad line, which is 127 kilometers long, leads from the Ussuri Railroad into this region and ends right on the border in Turiy Rog at the northeastern end of the lake. On the eastern side of Khanka Lake, the cultivated zone, which continues from the north without interruption, follows the Ussuri Railroad in a broad line, and with broad spurs into the valley of the Daubikhe and Ulakhe, the cultivated zone also penetrates toward the east into the mountain range. South of the lake the cultivated zone takes up the entire area from the Manchurian border to the mountain spurs of the Sikhote-Alin' and extends in an area of almost equal width via the Suyfun depression toward the south to the coast, where on the west side of the Bay of Peter the Great it extends farthest to the south in the coastal plain.

The watershed between the Ussuri and the Suyfun is flat and scarcely makes an appearance morphologically. The Suyfun itself comes from Manchuria and crosses the border almost exactly at 44° latitude. Then it turns immediately toward the south to the sea. The valley area of the river is level and is accompanied on both sides

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

Or, under specific conditions, ice kernels form within the earth. 132 134
These ice kernels grow and press the upper layers of the earth into a hill, which then in the warm season collapses again. As a result a lake is frequently formed in place of the hill because of break-throughs in the earth. Generally the existence of frozen earth permits the absorption of the surface water only to a certain depth, and accordingly the rainfall for the most part must flow off on the surface. The irregular water flow of the rivers in these regions often goes back to this phenomenon. Thus the contrast between the high and low water lines is very great everywhere. At the confluence of the Shilka and the Agrun, the Amur passes, as its annual mean 1,200 cubic meters of water per second, while the minimum during the year is only 125 cubic meters per second. Heavier rainfall makes itself felt immediately in an often flood-like rise in the water being passed in the rivers. The thawing of the surface layers of the earth, especially in areas with varying morphological formations, offers the best conditions for ground flows. Thus the domain of the permafrost is the classical land for landslides and solifuction.

But, in addition to these numerous and very interesting natural 132
phenomena, the effects of the permafrost on man and his economy 134
must be mentioned; these effects are apparent everywhere in the per- 499
mafrost domain and often bring difficulties. Through freezing the volume of the water expands, presses the ground upward in places, and causes destruction of transportation installations. Deep tears occur in the railroad line, and through these tears mud and water from deeper layers often push out, /53/ /Mapof the permafrost area:/ /54/ freezes on the surface, bursts the splits open farther, and forms high bucklings, and thus gradually the roads become unusable. With the setting in of the thawing weather, everything sinks together in mud and pulp.

In addition the roads and especially the bridges are by preference the starting points for ice building on ice. As an example [491]
Sumgin points out the road built from Bol'shoy Never on the Amur railroad, via Tyndinskiy and the Aldan gold region, to Yakutsk on the Lena. This road should be usable for trucks the entire year. Out of the entire length of 1,300 kilometer, on the southern part alone between Bol'shoy Never and Tommot, which is 728 kilometers long, 117 formations of ice on top of ice were counted in the winter of 1927-28. These formations caused serious destruction, especially on bridges which were as a result partially raised up, made crooked, and gradually

132 made unusable. In the spring after the melting away of the ice, the
134 bridges completely collapse. The population claims that earlier for-
499 mations of ice on ice occurred only seldom in these same regions.
Thus it must be assumed, and Sumgin also points this out, that the formations of ice on ice are encouraged by the building of roads. Through trials and experience, various new methods of road-building have been found which hinder this damage, but it can not be entirely eliminated. In general terms it can be said that in the areas of permafrost road-building is very difficult, requires a longer time, and is done at much greater cost than in other regions.

Of a similar type are the difficulties encountered in building and maintaining railroad lines. In addition to the pulsation of the earth, landslides and solifluction are regarded as being especially dangerous here. In building the Amur railroad line all these hindrances and difficulties became known in detail. Often, without regard to the cost, the lines had to be laid entirely differently from what had originally been planned. Especial difficulty was encountered in providing water for the railroad in the winter in the areas of permafrost. Water had to be drilled from layers which lay under the permafrost. In many places water had to be procured in kilometer-long, heated conduits. A comparison of costs shows best how great the difficulties were in building the Amur railroad line in the areas of permafrost and to what extent these difficulties increased the costs here versus those in other regions. The building of the great Siberian Railroad (as far as Sretensk in Transbaykal), including all preparatory work, required as a mean an expenditure of 67,737 rubles per verst, while the western part of the Amur line from Kuenga to Kerak, whose total lenght is 597 verst, required for pure building costs an average expenditure of 158,000 rubles per verst. Also the maintenance of the railroads requires larger outlays, since the railroad lines, and especially the bridges, require constant and very careful inspection, in order to be able to take /55/ protective measures in time at the slightest sign of any destruction whatsoever. Thus in the course of the year position changes were determined on 50 out of a total of 80 bridges on the Amur railroad, and these position changes had to be eliminated by protection and rebuilding measures.

132 The permafrost also plays a noteworthy role in the method
134 of construction. Apart from the direct effects of the cold, the buildings
342 in the sphere of the permafrost are subjected to the danger of gradual decay. The reason for this lies principally in the fact that the ground

substitute line, which is put into action immediately if the first railroad line is disturbed for any reason. This was the case during the period of Japanese rule in Manchuria from 1931 to 1945. It was during this period that the pressing necessity of a second track for the eastern part of the Trans-Siberian Railroad first arose. The second track for the stretch from Ulan-Ude to Urusha (1,570 kilometers) was laid from 1933 to 1935; the stretch from Urusha to Khabarovsk (1,314 kilometers) was laid from 1934 to 1936; and the stretch between Khabarovsk and Vladivostok (768 kilometers) was not laid until 1936 to 1939. The North Manchurian Railorad, on the other hand, was built with two tracks from the beginning. Of greatest importance is the fact that the Russian track width was not changed in Manchurian territory from 1931 to 1945, and, accordingly, the railroad line was available for the use of the Soviet Union immediately after the end of World War II. In the period from 1905 to 1945 the Japanese changed only the South Manchurian Railroad (Harbin to Dairen) to the Japanese track width (normal tracks), while the North Manchurian Railroad was always traveled by Russian locomotives and Russian railroad cars.

The construction of the Transbaykal Railroad began in 1895 and was supposed to be completed in 1898. However, a flood, such as Transbaykal had never experienced, caused such extensive damage that it was only in 1900 that traffic could cover the entire stretch. Construction of the line was very difficult. The ground in Transbaykal is permanently frozen and thaws in the summer only to a depth of one to two meters. As a consequence of this, the work had to be done during the warm part of the year with dynamite under the thawed out layer of earth; this turns the thawing masses of frozen earth into a thick porridge /Brei/. The installation of water conduits was especially difficult. In order to prevent freezing, the water pipes had to be laid in wooden galleries which could be heated. Since according to the construction specifications only Russian materials could be used, these materials had to be procured in part via Vladivostok and Khabarovsk. For this purpose state shipping was established on the Ussuri, Amur, and on the Shilka as far as Sretensk. This resulted at the same time in a permanent opening-up of this waterway.

The section from Sretensk to Khabarovsk was originally envisaged as a continuation of the Transbaykal Railroad to the east. The marking /185/ out of this line, however, pointed up such great difficulties and such unfavorable economic conditions that this plan was

•499 abandoned and it was decided to build the railroad from Transbaykal to Vladivostok across Manchuria. Negotiations with China led in 1896 to a concession to the Russo-Chinese Bank for the construction and management of a railroad through Manchuria; this railroad received the name of East Chinese Railroad. The East Chinese Railroad Society, founded on the basis of this concession, received the right to manage the railroad for eighty years after the opening of the line. After this period the railroad was to fall to China without compensation. The society was further required to construct a connecting railroad from the eastern border of Manchuria to Nikol'sk-Ussuriski, the present day Voroshilov, and also to erect a railroad line from Harbin to the ice-free south Manchurian harbors of Dal'nyy and Port Arthur. The main line from Manchuria to Grodekovo was begun under Russian direction in 1897 and was completed in 1904. The completion was delayed so long because the rebelling Chinese in the Boxer Rebellion of 1900 completely destroyed approximately 950 kilometers of the 1,350 kilometers completed. The result of this was the occupation of Manchuria along the main lines by Russian troops, which remained until 1904-1905, and, consequently, the Russo-Japanese War could be fought out on Manchurian territory.

The construction of the last part of the Trans-Siberian Railroad between Vladivostok and Khabarovsk occurred before the completion of the Amur Railroad. The consturction of the southern half began in 1891 and was completed in 1894; the northern half was completed from 1894 to 1899. The resolution of the labor question was especially difficult here in the regions still little populated. As with the Transbaykal Railroad, this problem was alleviated by the use of military detachments, prisoners, and forced settlers.

There was the longest hesitation on the construction of the Amur Railroad. The inexact knowledge of the land, the vast uninhabited areas, the unfavorability of the climatic and soil conditions, and the great length of approximately 1,500 kilometers were discouraging. Decisive for the decision was the outcome of the Russo-Japanese War. In 1908 construction was begun on partial stretches, and only in 1916 was the entire stretch open to traffic. Here, too, permafrost was one of the greatest difficulties. Heaped up railroad embankments melted away often and breaks in the ground were filled up again and again by solifuction. Water had to be drilled from layers which lay under the frozen earth. The strict specification, which applied here, too, that only Russian workers and no yellow-skinned assistants were to be used

499

in the construction, attained brilliant results not only because many millions of rubles remained in the country but also primarily because it fostered colonization. Many thousands of workers, who were recruited from Russia, learned to know the Amur country and settled in the land after the completion of the construction. [K7]

/186/ The Trans-Siberian Railroad leads through the most important localities in the Far Eastern region. The distances between the most important localities are as follows in railroad kilometers: Irkutsk--Ulan-Ude, 490 kilometers; Ulan-Ude--Chita, 554 kilometers; Chita--Khabarovsk, 1,428 kilometers; Khabarovsk--Vladivostok, 768 kilometers; Karymskoye--Otpor (border station), 366 kilometers; Karymskoye--Harbin--Vladivostok, 1,981 kilometers. 496

A number of branch railways lead from the main line to localities which are important economically or in terms of transportation. On the Transbaykal Railroad and the Amur Railroad the following, from west to east, are to be cited.

Ulan-Ude	--Naushki (Mongolian border)	225 kilometers
Petrovsk	--Balyaginsk (iron ore)	19 kilometers
Tolbaga	--Khalyarta (coal)	8 kilometers
Ingoda	--Ildigun (wood, agriculture)	52 kilometers
Priiskovyy	--Nerchinsk (city connection)	10 kilometers
Kuenga	--Sretensk (Shilka harbor)	55 kilometers
Pashennaya	--Bukachacha (coal)	73 kilometers
Skovorodino	--Dzhalinda (Amur harbor)	60 kilometers
Ushumun	--Chernyaye (Amur harbor)	38 kilometers
Kuybyshevka	--Blagoveshchensk (Amur harbor)	109 kilometers
Bureya	--Raychikhinsk (coal)	43 kilometers
Arkhara	--Innokent'yeva (Amur harbor)	35 kilometers
Izvestkovyy	--Ust'-Tyrma (coal)	190 kilometers

Of these lines the railroad from Ulan-Ude to Naushki is of the greatest significance. It was completed in 1939 and leads to the Mongolian border. Since then it has been lengthened to reach Ulan Bator (Urga), the capital of the Mongolian People's Republic. Then, in addition, various side lines have been created in the last few years. Thus a railroad line leads from Skovorodino over 150 kilometers to Tyndynskiy in the area around the upper course of the Gilyuy, and there is supposed to be a connection to the new Baykal-Amur Railroad (BAM). Also the Izvestkovyy--Ust'-Tyrma line named last in the above list

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts. 563 177

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds. 101 563 [142] [291] [262] [493] [501]

Chukchee, Koryak

material life of the Maritime Chukchee, who number approximately 3,000, is completely the same as that of the Eskimo. They use the same leather boat, the kayak, and the metal harpoon with a float made of an inflated sealskin, and many other things. On the other hand the Reindeer Chuckchee are completely nomadic and have shown themselves to be extraordinarily good reindeer breeders. They number only about 9,000, but they have around half a million reindeer. But still reindeer breeding does not appear to have been their original sphere, for many idioms as well as marks of their dwelling indicate that they also once lived on the banks of the sea; reindeer breeding was perhaps taken over later from the neighboring Tungus. Thus, /109/ as Bogoras (37) reports, the interior of the sleeping section of

37. V. Bogoras. The Chukchee (New York, 1904/1908).

the tent is designated as the "skin of the white bear" by the Reindeer Chukchee, even though at present not bear skin but rather only reindeer skin serves as walls and bed covering both for the Reindeer and the Maritime Chukchee. Peculiar is the belief of the Chukchee that a life after death is attained only by a person who has had a violent death, and it was not long ago that, out of a kind of sympathy, they killed their own people who were weakened by age or unfit for life; this custom is also reported among the North American Eskimo. The Chukchee, Koryak, and Kamchadal generally show many traits related to those of the Indians of northwest America, and it is for this reason that Bogoras classifies as "Americanoid" the entire group of Paleo-asiatics, including the Gilyak mentioned earlier.[1] Myths and sagas coincide both in content and in form, often down to details, with those of the northwest American Indians. Accordingly the assumption should not be dismissed that the Chukchee, Koryak, and Kamchadal once were immediate neighbors of the Indians, and that only at a later time did the Eskimo shove in between them.

The Koryak, now also designated as Nymylan, occupy the northern half of Kamchatka and the adjacent continent. Their number is estimated at around 10,000. Like the Chukchee they are divided in half into the Maritime Koryak and the Reindeer Koryak. The former are sedentary and above all fishermen, and their life approaches in significant measure that of the Eskimo. They also hunt sea animals such as the walrus, the seal, and occasionally also the whale. They are already extensively absorbed into the Russian culture and live

1 [Cf. cat. 116, pp. 118-119 -- Analyst]

133 505 is high, however, steamers get over 345 kilometers along the river as far as Chekunda, indeed on occasion as far as the mouth of the Unalta. The Bureya is important as a supply route for the gold regions on its upper course.

The Zeya and Bureya bring a great deal of wood to the Amur.

Water Flow of the Bureya

Locality	Annual Mean in cubic meters per second	Minimum in cubic meters per second
Niman Estuary	392	8
Ushumun Estuary	579	11.5
Talakan Estuary	980	19
Daldakan Estuary	1,025	19.5
Mouth	1,067	20

The Ussuri River is on the border toward Manchuria. Its length, including that of its source river, the Daubikhe, is more than 900 kilometers, its width fluctuates between 100 and 1,000 meters. It is navigable by ship for its entire course, and it is regularly traveled even though sand banks and other shallows offer obstacles on the winding course. The Ussuri line is the best opened up in terms of transportation, for the main railroad and a highway also run in the direction of the river.

•501 Water transportation in the Amur area is mostly served by small steamers with a mean of 500 indicated horse power and with a carrying capacity of their own of 250 tons. However, recently numerous larger vessels have also been employed which have been specially built for service here. As a rule wide, shallow-draft barks are used to transport goods; these barks have a carrying capacity of up to 800 tons and are mostly put together in trains of barges. The number of river steamers and tug boats in the 1930's was more than 200 and has since probably been enlarged. In addition to the transporation fleet, there is also an Amur war fleet, which has its seat in Khabarovsk and which consists of river gun boats with a size of up to 1,000 gross register tons.

133 505 The main part of Transbaykal to the west is drained by the system of the Selenga. The Selenga comes from Mongolia and rises there from the two rivers, the Ider-Gol and the Muren-Gol. The length of the Selenga is 1,272 kilometers, its river area covers 511,464 square kilometers. Not far from Kyakhta it enters the territory of Transbaykal,

where it flows for another 414 kilometers. In this part the Selenga is 200 to 450 meters wide and has a mean depth of 1.6 meters. The mean velocity reaches 5.6 to 8.5 kilometers per hour. Apart from a bar off the mouth, which makes entrance into the river difficult, there are no large hindrances here, and accordingly the Selenga can be designated as completely navigable in this part. Occasionally smaller steamers travel 480 kilometers into Mongolia during the high water period in the summer. The period when the river is navigable lasts exactly half a year. The water level during this period fluctuates approximately 2 meters as a mean. Regular steamer shipping /194/ has developed as far as Ust'-Kyakhta. The tributaries are traveled as needed. The largest tributaries are the Chikoy, which is more than 740 kilometers long and is navigable by ship for 249 kilometers; the Khilok, which is 742 kilometers long; and the Uda, which is 403 kilometers long. The center of water transportation is Ulan-Ude, where there is also a dockyard for steamers and barks. In connection with the Selenga there is also water transportation on Lake Baykal and on the Angara as far as Irkutsk. The total number of steamers here in 1930 was 87, and the total number of barks was 185 in contrast to only 13 steamers and 18 barks in 1912.

The importance and the capacity of water transport on the Amur exceeds that of the Selenga by several fold. The following table gives a comparison:

Water Transport 1939
in 1,000 tons

	Total	Oil	Wood		Grain	Mineral Construction Materials	Salt
			By ship	By raft			
Selenga	200	7	7	91	45	14	1
Amur	1,305	191	11	645	186	65	13

Air Transport

Air transportation was early introduced into the entire Far Eastern region to overcome the great distances. The main line coming from Moscow leads via Chita and Khabarovsk to Vladivostok. Beside the direct line, flights are made along this stretch to the following localities: Ulan-Ude, Chita, Nerchinsk, Mogocha, Skovorodino, Tygdinsk, Svobodnyy, Arkhara, Birobidzhan, Khabarovsk, Bikin, Iman, Voroshilov,

505 the entire Far Eastern coast. Nature has through winter ice barriers drawn an often very narrow limitation, in terms of time, on the usefulness of the sea route.

132 On the Sea of Japan freezing of the coast and freezing over of the rivers occurs relatively early along the Soviet Russian coast in the entire area north of 42° latitude as a consequence of the cold winds coming from the continent. The harbor of Vladivostok, however, [504] can be used all through the year. To be sure, the "Golden Horn" freezes over in the second half of December, and the ice covering remains until into the second half of March, but the ice is not so thick that a path cannot always be made by ice-breakers for the incoming and outgoing ships. Even here, however, the undisturbed ice can attain a thickness of up to one meter.

Far more unfavorable are the conditions in the Gulf of Tatar, which separates Sakhalin from the mainland. In the southern part the ice distribution and with it the accessibility of the coast depends on the prevailing winds. With persistent northwest winds the ice piles up on the western coast of Sakhalin; with east and southeast winds, on the other hand, the ice is driven toward the mainland coast. North of 51° latitude the ice covering is thicker; there the gulf is covered by a closed ice covering throughout approximately 125 days a year, and passage is free only at the beginning of May. The individual bays, however, on which the coastal towns lie, are closed over earlier and also remain shut off by ice longer. The Amur at Nikolayevsk has an ice covering for a mean of 184 days. The table appended to this chapter gives details on this.[1]

As a consequence of the northwest winds which set in already in September and especially in October, the Sea of Okhotsk comes under continental influence early. At the end of October and in the first half of November ice formation begins along the northern coast. The thickness of the ice grows until into March, persists through April, and only in May does the disintegration of the ice begin. Almost at the same time the breaking up of the ice also begins, at first at the mouths of the rivers and then along the coast. This type of breaking up fosters the destruction of the solid coastal ice, which is then further broken up by the wind and battered by the waves. As a consequence of the current the ice is driven toward the west and southwest and collects in Udskaya Bay and at the Shantar Islands in the southwestern corner of the Sea of Okhotsk. As a consequence of this the ice persists the longest in these places. Even in July large ice fields can be

[1] [cf. pp. 231-232 -- Analyst]

other hand, an elevation still appears to hold sway at present. Many rivers emptying into the sea show delta formations. 133

As a consequence of the southern current running along the coast, numerous narrow tongues of land separating small bays from the sea have formed. All these tongues of land point toward the south. The deltas mostly lie left of the river courses, which, therefore, show a wandering to the right and which also dig under the shore on the right side. The sea current is weaker and irregular on the southern coast, which is heavily broken up; thus tongues of land here can run in all directions.

The most important bay on the east coast is Ol'ga Bay. It was discovered in 1787 by La Perouse and forms one of the best natural harbors on the coast. Lying off the bay are the small, rocky Chikhachev Islands. The bay itself has a diameter of 3 kilometers and is on the mean 25 meters deep. Once it was at least three times as large and reached much more deeply into the land toward the west. Today the valley areas of the rivers emptying into the bay become swampy. When there is a strong east wind, a backward flow can even be determined. The old marine abrasion terraces are very well preserved on the mountains at a height of 25, 30, and 120 meters. The low mountains surrounding the bay consist of granite, quartz porphyry, and sedimentary rock and contain above all iron /264/ in addition to lead [135] ore containing copper and silver. This iron is magnetite with an iron content of 50 percent; the iron is being mined here. The harbor locality of Ol'ga has several thousand inhabitants. In the hinterland of the bay [261] Russian peasant settlers have made their appearance.

The Tetyuke Bay has a greater economic importance. Here, 316 35 kilometers from the coast, is the most important zinc-lead-silver 504 ore in the Far East. A narrow-gauge railroad connects the mining installations and the preparatory installations with the harbor, which has gotten modern loading equipment very recently. The harbor locality has several thousand inhabitants. Here, too, there are agricultural settlements in the hinterland.

Between the two above-mentioned bays is a third bay, the 133 Vladimir Bay. It is surrounded on all sides by granite mountains which are up to 225 meters high. The bay has a depth of up to 12 meters. Fresh water lakes and swamps enable us to recognize the former larger expanse of the bay. Two projecting rocky peninsulas enclose the bay. Vladimir is known for its installations for the extraction of iodine from seaweed.

133 361 Of the more favorable bays on the northern part of the Sikhote-Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has developed quickly into a city with more than 20,000 inhabitants. It has also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

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361 For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

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133 361 The real, vast mountain massif of the Sikhote-Alin' is very sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Isiubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

137 Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

361 low ridges of the Sikhote-Alin' and enters the Muravyev-Amurskiy Peninsula and finally reaches Vladivostok, the main town and the most important harbor of the Soviet Union on the Pacific.

Vladivostok was founded in 1860. In 1872 the base of the Russian Pacific naval fleet was transferred here from Nikolayevsk on the Amur, and since then Vladivostok has been the center of the military power of the land on the Pacific. Economically, however, the city developed only slowly. In 1882 only 5,000 persons lived in the city. At the same time somewhat regular shipping between Vladivostok and the Black Sea harbors of Russia was taken up. However, the city's rise to become the economic center of the land began only after the construction of the Ussuri and Manchurian Railroad. [504] Through this railroad Vladivostok first became an important Pacific harbor, especially in transit shipping, and in this it is a harbor for all of northern Manchuria. The more recent development of the city into an industrial city has also kept pace with its development into an important harbor. In 1897 the city had a population of 21,000 [161] persons; in 1914 it was 59,000; in 1926 it was 107,980; and in 1939 it was 206,400. At present it is more than 300,000.

361 133 504 The city lies on the well protected and deep bay of the "Golden Horn" at the southern end of the Muravyev Peninsula opposite the large Russkiy Island, which is richly divided up. The peninsula and the island are separated by the "Eastern Bosporus," which extends from the Amur Bay in the west to the Ussuri Bay toward the east. The harbor is unique and one of the best natural harbors in the world, as the designations already indicate. The "Golden Horn" penetrates from the south into the Murayev Peninsula and bends then almost at a right angle toward the east (see map). /273/ /Sketch Map of Vladivostok and the Southern Coast/ 1/2 /274/ The north-south section forms the outer bay and is 3 kilometers long; the west-east section constitutes the inner, harbor bay and is 3.2 kilometers long. The width of the "Golden Horn" is 800 to 1,000 meters; the depth in the interior is 10 meters, and at the entrance of the bay it is 28 meters. Mountains surround the bay and protect it from the cold northwest and west winds. Mountains also rise 50 to 100 meters on the Shkota Peninsula, which separates the outer bay from the Amur Bay. Nevertheless, 361 504 the harbor freezes for three to four months every year, and throughout the winter three ice breakers are in uninterrupted service to keep the harbor and the entrance free of ice. The outer bay and the western part of the inner bay above all belong to the commercial harbor, while

1/2 [Cf. cat. 116, p. 317 -- Analyst]

the section farthest in of the inner bay has been built up as a naval harbor and is closed to commercial ships. Additional harbor installations lie on the "Eastern Bosporus" and on the outer side of the Shkota Peninsula. In detail the harbor houses the following installations: 361 504

1. Krestovaya Harbor: It stretches at the foot of Krestovaya Mountain, which is 94 meters high, and has quays which are 486 meters long. This harbor is used especially in the winter since it is easiest to keep the waters open here.
2. The Egersheld, which is at the same time a quarantine harbor and which has a quay almost 950 meters long. Here the most active life prevails in the summer. This harbor is specially built up for the turnover of grain, and it has the most modern loading equipment and granaries.
3. The Harbor of the "Voluntary Fleet" (Dobrovolnyi Flot). It received its name from the Organization of the "Voluntary Fleet," which was founded in 1870 and which was the first to take up the task of connecting the mother country with the Far East.
4. The Customs Pier and the so-called "Wide Mole," which takes up the northwestern angle of the Golden Horn.
5. The Commercial Pier with the "Wide Pier" (Shirokiy Pir) on the southern side of the bay. This has extensive track installations and the largest storehouses. The quay installations are 1 kilometer long.
6. The Wood Harbor, which lies somewhat farther south on Cape Churkin.
7. The Ussuri Railroad Harbor on the western side of the Shkota Peninsula. This has extensive installations for oil and petroleum.
8. The Semyonovskiy Bazar, which likewise lies on Amur Bay. It serves coastal traffic predominantly.

All the quay installations together have a total length of more than 4 kilometers, and the network of tracks, which span the harbor and all its installations, is 335 kilometers long (1937). From 1933 to 1939 there was a further building up of the harbor, and thus it is in a position to handle an annual turnover of 4 to 5 million tons. In the first period of the development of Vladivostok, the supplying of water caused some difficulties. But these have now been overcome by means of a large water storage installation on the /275/ /Sketch Map of the Harbor of Vladivostok/ /276/ so-called "Second Little River" (Vtoraya Rechka) and by means of the filtering installation, holding 100,000 tons, on the inner edge of Ulis Bay, into which Lipovyy Brook flows. 361 312

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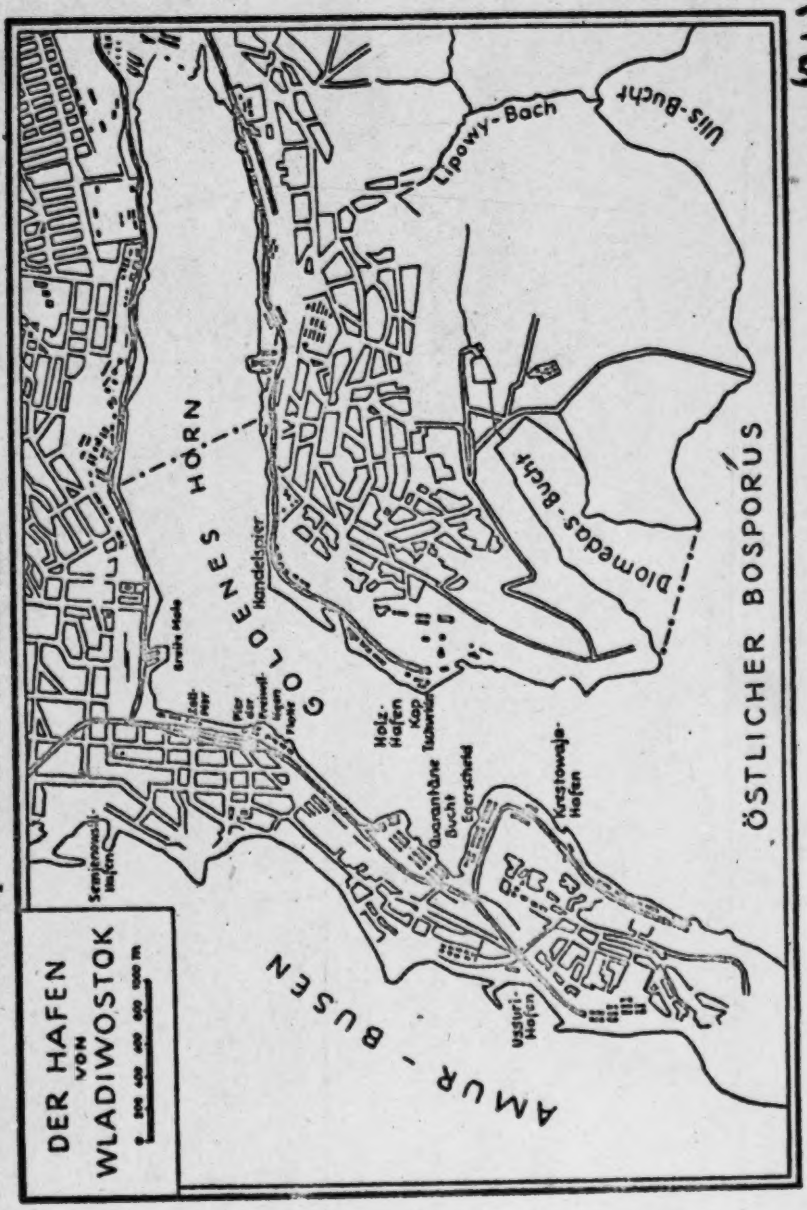

Sketch Map of the Harbor of Vladivostok

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

same time created the shortest connection with the entire Kolyma region. The highway is more than 1,000 kilometers long and was built under the most difficult of conditions (mountain ranges, permafrost). Bases connected with small agricultural economies /290/ facilitates the use of the road. The harbor of Magadan lies on Nagayevo Bay. Steep rocks are artificially heaped up at the foot of the landing places for sea-going ships. Ice breakers are employed in the harbor to make it possible to use the harbor for a longer period. The rapidly growing city, which in 1939 already had more than 10,000 inhabitants and today is estimated to have 50,000 inhabitants, lies somewhat at a distance from the harbor and is separated from it by a flat, rocky hill. The construction of the city was done with the most modern means. They have even succeeded in building stable six-story skyscrapers, despite the permafrost, by using deep excavations and by laying in insulating layers.

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The Provinces of the Extreme Northeast

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These regions are bordered on the west by the Kolyma Mountain Range, and they are divided into the Chukchi Peninsula, the Anadyr' and Penzhina region, and the Koryak Mountain Range. Of these areas only the strip along the coast is better known; the vast interior, on the other hand, is mostly still insufficiently explored.

The Chukchi Peninsula is cut off from the Asiatic continent on the one side by Chaun Bay on the Arctic Ocean and on the other side by Anadyr' Bay on the Bering Sea. The southern border is formed by the Anadyr' Mountain Range, which represents the watershed between the Arctic Ocean rivers and the Anadyr', and which is more than 1,000 meters high. The region north of the Anadyr' Mountain Range is also filled with lines of mountain ranges almost as far as the coast of the Arctic Ocean. These mountain ranges stretch in a direction from west to east. Further toward the east the contiguous, broad mountain landscape is lost, and the mountain ranges form themselves into two ridges which lie under 800 meters and which, broken through several times by rivers, reach the east coast with the northern mountain range going in the direction of Cape Dezhnev. The cape itself, which lies 77 kilometers from the mainland of Alaska, consists of a single, massive mountain which is 770 meters high and which is formed from limestone. This mountain is completely isolated and is connected with the mainland only by a low, narrow tongue of land, which is

world. The crabs are extraordinarily large and attain lengths of half a meter and more. They are drawn up from the bottom of the sea in drag nets in which they get entangled. Worthy of mention in this connection are the floating crab canning factories, which are used on the west coast and which carry out on board all the work from catching to canning.

The capital of the peninsula is Petropavlovsk. The city lies on Avacha Bay, which freezes over only exceptionally. The bay is surrounded in a semi-circle by the panorama of high volcanos. The city's favorable natural harbor, which a short while ago got a ship-yard with a dock for ships of up to 5,000 gross registered tons, gains more and more in importance since the ships of the Northern Sea Route spend the winter here before they start out on their trip to the north. This applies especially to ships which regularly travel to the Kolyma River in order to ensure supplies of heavy materials to the gold regions on the upper course of the Kolyma. Petropavlovsk is the center of the hunting of sea animals and of the industries connected with this. In addition, the city also has fish processing installations, a brickyard, saw mills, and a can factory, which is of especial importance since it supplies the necessary material to all the smaller fish processing localities. In the treeless delta of the Kamchatka River lies Ust'-Kamchatsk, the next most important locality on the peninsula. More than 2,000 workers /302/ work in the canning factories there in the summer. The locality, in addition, has a special importance as the gateway to the interior of the peninsula, which can be reached easily only through the Kamchatka valley, while the other approaches have to overcome difficult passes. In increasing measure also wood is floated down the Kamchatka River to the coast, where it is processed in and sent on from Ust'-Kamchatka. In the broad longitudinal valley of the Kamchatka there are a series of villages, among which Verkhne Kamchatsk and Mil'kovo should be mentioned. In this area removed from the coast, horses are kept, since supplying fish food for dogs causes difficulties. At the inner entrance to the cross valley, at the foot of the largest volcano cone, lies the village of Klyuchi, from which the volcano receives its name. Here the traffic lines from the interior merge and make the locality into a central trading place, especially for fur goods. In addition to Russians and Koryak, some Chinese and Koreans have also settled here. Klyuchi has a scientific observatory for the study and special observation of the Klyuchevskaya Sopka. Below the village the Kamchatka widens into a sea decorated with islands.

133 Here, too, the left shore is mostly flat and swampy; the right, on the other hand, is hilly and drier. Now and again mountain chains also appear /190/ on both sides of the river and force its masses of water into a closed bed. The last part of the river is closed in on both sides by mountains, although the river still reaches a width of 5 to 10 kilometers in places.

[506] The Amur is navigable for its entire length, and its source rivers, too, are still regularly traveled by steamers, the Shilka being traveled as far as Sretensk and the Argun as far as Olochi. The speed at which the Amur flows is varying and depends on the drop at any one spot. In this the river has to overcome three steps: the Great Khingan, the Bureya Mountain Range, and at the end the Sikhote-Alin'. The mean velocity of the Shilka and of the upper Amur is 5.5 to 6 kilometers per hour, that of the middle Amur is 4.2 kilometers, and in the lower course of the Amur the mean velocity is 3 kilometers and less. The conduction of water varies greatly, especially in the upper course, since here the source rivers, especially the Shilka, dry up almost entirely in the period of less water--and here this period is the winter. At this time the Shilka conducts only approximately 8 cubic meters per second at Sretensk, while at the same place it conducts 142 cubic meters when the water level is normal, and 420 cubic meters when the water is high.

The following table shows what quantities of water the Amur carries along in its various parts and the differences in the water fluctuations at the various localities:

Localities	Length of this section of the river in kilometers	Drop of this section of the river in meters	Water conduction, Annual mean in cubic meters per second	Minimum in cubic meters per second
From Pokrovk--				
Albasin	238	55	1,200	125
Chernyayevo	190	49	1,500	165
Kumara	213	39	1,700	200
Blagoveshchensk	226	33	1,800	220
Poyarkovo	164	17	4,000	550
Innoken'yevska	130	17	5,000	700
Yek. Nikol'skaya	252	36	5,500	850
Mikh. Semenovskaya	190	14	8,500	1,500

(Table continued on following page)

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Localities	Length of this section of the river in kilometers	Drop of this section of the river in meters	Water conduction. Annual mean in cubic meters per second	Minimum in cubic meters per second
Khabarovsk	258	15	10,000	1,800
Komsomol'sk	360	16.5	11,100	2,000
Bogorodskoye	410	12	11,700	2,100
Mouth	170	4.5	12,200	2,200

Corresponding with the water conduction, the water horizon fluctuates more in the upper parts of the river than in the lower parts. The range of the annual water fluctuation is 9.7 meters at Sretensk, a mean of 6 meters at Khabarovsk, and only a little more than 2.40 meters at Nikolayevsk. However, the high water which appears very suddenly as a result of downpours of rain in the summer, varies greatly from year to year. The floods from the mighty /131/ river area often break so quickly that they cause great destruction. The largest known flood was in 1872. At Blagoveshchensk the water rose 10 meters in a short time, and in the narrow break-through valley of the Bureya Mountain Range the water even rose 15 meters. The water masses pouring out wildly and in an unruly fashion tore along with them numerous settlements near the river and their people, animals, and property. The year 1928, too, was distinguished by an extraordinarily heavy high water, which brought the city of Blagoveshchensk into a state of great distress.

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Because of the ice covering the navigable period of the Amur is limited to the summer months. The mean duration of the ice-free period is 155 days at Sretensk, 170 days at Blagoveshchensk, 185 days at Khabarovsk, and again only 160 days at the mouth of the Amur. On the middle Amur the southern location makes itself felt, and at Khabarovsk the effects are felt of the emptying in of the great rivers coming from the south, the Sungari and the Ussuri. These two rivers become free of ice earlier than the Amur and bring warm water into the Amur. In the periods of navigability the view is hindered in the mountain regions by thick morning fogs which force the ships to travel more slowly or even to stand still. Then rapids and stony areas constitute a hindrance in the upper part, and sand banks in particular constitute a danger for almost the entire course of the river. The sand banks consist mostly of soft, slimy masses of sand, which form in the river bed as

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longish heaps which are constantly being added to; and when the water is low, these sand banks also often emerge as islands. The lower Amur has no hindrances and can be used at all times by ships with a depth of up to 3 meters, and on the last 420 kilometers of the river it can even be used by ships with a depth of 6 meters and more. If broad, flat sand bars did not close off the entrance at the mouth of the river, sea-going ships could travel 100 kilometers into the Amur. The annual changes of the water conduction causes the ship traffic on the upper part of the Amur to be such that from May to August ships with a depth of 1.5 meters can go as far as Blagoveshchensk and ships with a depth of somewhat more than 1.0 meters can get as far as Sretensk on the Shilka without hindrance. In September, on the other hand, travel as far as Blagoveshchensk is dangerous for ships with a depth of 1.20 meters and travel as far as Sretensk is dangerous for ships with a depth of 0.90 meters. These limitations apply to through traffic and do not exclude the possibility that in individual parts of the river, where shallow places do not hinder passage, larger ships could also be employed without limitations in local traffic.

The Amur as the main water vein in the entire land receives its great importance for transportation only through its numerous and important tributaries. These are in large measure navigable by ships, and over even larger lengths navigable by rafts, and thus open up wide areas of the entire province.

The Shilka is the main source river of the Amur and drains the water from an area of more than 210,000 square kilometers. Its source river, the Ingoda, is navigable by rafts for 455 kilometers, and, when the water is high, it is hypothetically navigable by ships from approximately Chita on. The Ingoda itself and its right tributaries come from richly forested areas and bring /192/ to the Amur wood above all. The Onon is navigable by rafts for 550 kilometers. In its upper course it is a steppe river, and only in its lower course does it flow through forested region.

The Argun, with a total length of 1,580 kilometers, drains an area of 260,000 square kilometers. It rises in the Great Khingan in Manchuria, where it bears the name of Hailar, and it receives also numerous tributaries from the right. Thus it never suffers from a water shortage. On the other hand mountains appear right on the river at its lower end and produce various strong rapids. The bed is stony and not uncommonly is filled with large blocks of rock, which in many cases lie across the river like chains, making it very difficult for ships to

get through. Although its middle course along the border is 200 to 300 meters wide and has sufficient depth, which in places it up to 8 meters, the Argun is regularly traveled only on the last 54 kilometers. The floating of wood, on the other hand, is very active on the entire course of the river. 133 505

The Zeya with a length of 1,225 kilometers and a width of up to 2 kilometers, is the most important left tributary of the Amur. In its upper course it has a sharp drop, and only below its breach through the Tukuringra Mountain Range does it quiet down. The monsoon air masses, which are forced to rise in the mountains in the area around the upper course of the Zeya, bring especially heavy rainfall here. The water conduction reacts very exactly to this rainfall, and thus, according to the downpours of rain, high waters arise and the river then again and again goes over its normal banks. Thus during almost the entire summer the Zeya conducts a great deal of water and is hypothetically navigable for medium-sized steamers for 950 kilometers and even 1,100 kilometers for smaller steamers. Zeya-Pristan' (harbor) is the end point of the regular steamer traffic. Here the goods are stored up during the summer in large warehouses in order then in the winter to be taken by sled into the gold districts on the upper course of the Zeya and on its tributary, the Gilyuy. The new Baykal-Amur Railroad crosses the river at Zeya-Pristan'. From the left there flows into the Zeya the Selemdzha which is 690 kilometers long and which is navigable by ships as far as Norsk.

Water Conduction of the Zeya

Locality	Annual Mean in cubic meters per second	Minimum in cubic meters per second
Zeya-Pristan'	1,100	22
Tyda Estuary	1,350	45
Selemdzha Estuary	2,100	105
Mouth	2,350	125

The Bureya, the next large left tributary of the Amur, is 740 kilometers long and up to 700 meters wide on its lower course. The upper and middle course of the river flow through mountainous regions and conceal numerous obstacles. Thus the river, which is rich in water, is navigable only on its last bit. When /193/ the water level

133 is high, however, steamers get over 345 kilometers along the river as far as Chekunda, indeed on occasion as far as the mouth of the Unalta. 505 The Bureya is important as a supply route for the gold regions on its upper course.

The Zeya and Bureya bring a great deal of wood to the Amur.

Water Flow of the Bureya

Locality	Annual Mean in cubic meters per second	Minimum in cubic meters per second
Niman Estuary	392	8
Ushumun Estuary	579	11.5
Talakan Estuary	980	19
Daldakan Estuary	1,025	19.5
Mouth	1,067	20

The Ussuri River is on the border toward Manchuria. Its length, including that of its source river, the Daubikhe, is more than 900 kilometers, its width fluctuates between 100 and 1,000 meters. It is navigable by ship for its entire course, and it is regularly traveled even though sand banks and other shallows offer obstacles on the winding course. The Ussuri line is the best opened up in terms of transportation, for the main railroad and a highway also run in the direction of the river.

501 Water transportation in the Amur area is mostly served by small steamers with a mean of 500 indicated horse power and with a carrying capacity of their own of 250 tons. However, recently numerous larger vessels have also been employed which have been specially built for service here. As a rule wide, shallow-draft barks are used to transport goods; these barks have a carrying capacity of up to 800 tons and are mostly put together in trains of barges. The number of river steamers and tug boats in the 1930's was more than 200 and has since probably been enlarged. In addition to the transporation fleet, there is also an Amur war fleet, which has its seat in Khabarovsk and which consists of river gun boats with a size of up to 1,000 gross register tons.

133 The main part of Transbaykal to the west is drained by the system of the Selenga. The Selenga comes from Mongolia and rises 505 there from the two rivers, the Ider-Gol and the Muren-Gol. The length of the Selenga is 1,272 kilometers, its river area covers 511,464 square kilometers. Not far from Kyakhta it enters the territory of Transbaykal,

where it flows for another 414 kilometers. In this part the Selenga is 200 to 450 meters wide and has a mean depth of 1.6 meters. The mean velocity reaches 5.6 to 8.5 kilometers per hour. Apart from a bar off the mouth, which makes entrance into the river difficult, there are no large hindrances here, and accordingly the Selenga can be designated as completely navigable in this part. Occasionally smaller steamers travel 480 kilometers into Mongolia during the high water period in the summer. The period when the river is navigable lasts exactly half a year. The water level during this period fluctuates approximately 2 meters as a mean. Regular steamer shipping /194/ has developed as far as Ust'-Kyakhta. The tributaries are traveled as needed. The largest tributaries are the Chikoy, which is more than 740 kilometers long and is navigable by ship for 249 kilometers; the Khilok, which is 742 kilometers long; and the Uda, which is 403 kilometers long. The center of water transportation is Ulan-Ude, where there is also a dockyard for steamers and barks. In connection with the Selenga there is also water transportation on Lake Baykal and on the Angara as far as Irkutsk. The total number of steamers here in 1930 was 87, and the total number of barks was 185 in contrast to only 13 steamers and 18 barks in 1912.

The importance and the capacity of water transport on the Amur exceeds that of the Selenga by several fold. The following table gives a comparison:

Water Transport 1939
in 1,000 tons

	Total	Oil	Wood		Grain	Mineral Construction Materials	Salt
			By ship	By raft			
Selenga	200	7	7	91	45	14	1
Amur	1,305	191	11	645	186	65	13

Air Transport

Air transportation was early introduced into the entire Far Eastern region to overcome the great distances. The main line coming from Moscow leads via Chita and Khabarovsk to Vladivostok. Beside the direct line, flights are made along this stretch to the following localities: Ulan-Ude, Chita, Nerchinsk, Mogocha, Skovorodino, Tygdinsk, Svobodnyy, Arkhara, Birobidzhan, Khabarovsk, Bikin, Iman, Voroshilov,

In mountain areas where only narrow, often steep paths are available, the beast of burden shows his real value. Only the horse is used as such; the reindeer is used very rarely since it has a backbone that is too weak and is not suitable as a draft animal. The reindeer is very rarely used as a riding animal and then only by the Lamut. The saddle is up in front on the reindeer; thus the rider sits directly over the reindeer's front legs. 492

Recently the horse has been adopted more and more on Kamchatka and also on the coast of the Sea of Okhotsk, and here and there it has already displaced the dog as the draft animal.

In summer, traffic in the entire north goes into the land from the coastal localities to which the coastal steamers make runs. The distances, therefore, are not so great, and the rivers make possible a further penetration into the interior. 489

The Kolyma has acquired a special significance in this connection; it is regularly traveled every summer to supply the gold districts. To be sure, the period when the river is navigable lasts only approximately three months. If, however, the entire coastal strip is covered with ice in winter and entire sections of the sea become ice wastelands, then the old means of transportation--dog sleds and reindeer sleds--still come into their right even today.

Sea Transportation and Ice Conditions along the Coast

The extensive coasts of the Far Eastern regions are above all designed for sea transportation. This applies primarily to the entire coast north of the mouth of the Amur; the localities along this coast have only a very slight economic hinterland behind them or no such hinterland at all, and, therefore, in their development, indeed in part even in their obtaining supplies, these localities have been dependent on the sea route alone, which for most of them signifies the sole connection with the outside world. But the coastal localities of the Sikhote-Alin', too, have no built-up and easily passable land routes over the mountains to the thickly populated Ussuri-Khanka depression, and, accordingly, an exchange of goods for these localities is likewise only possible by the sea route. With /198/ this striking importance of sea transportation it is understandable that the Soviet Union has striven with all its powers to build up and to develop sea transportation. Unfortunately, as has already been brought out in the discussion of the climatic conditions, nature is not favorable to sea transportation on 505

•505 the entire Far Eastern coast. Nature has through winter ice barriers drawn an often very narrow limitation, in terms of time, on the usefulness of the sea route.

132 On the Sea of Japan freezing of the coast and freezing over of the rivers occurs relatively early along the Soviet Russian coast in the entire area north of 42° latitude as a consequence of the cold winds coming from the continent. The harbor of Vladivostok, however, [504] can be used all through the year. To be sure, the "Golden Horn" freezes over in the second half of December, and the ice covering remains until into the second half of March, but the ice is not so thick that a path cannot always be made by ice-breakers for the incoming and outgoing ships. Even here, however, the undisturbed ice can attain a thickness of up to one meter.

Far more unfavorable are the conditions in the Gulf of Tatar, which separates Sakhalin from the mainland. In the southern part the ice distribution and with it the accessibility of the coast depends on the prevailing winds. With persistent northwest winds the ice piles up on the western coast of Sakhalin; with east and southeast winds, on the other hand, the ice is driven toward the mainland coast. North of 51° latitude the ice covering is thicker; there the gulf is covered by a closed ice covering throughout approximately 125 days a year, and passage is free only at the beginning of May. The individual bays, however, on which the coastal towns lie, are closed over earlier and also remain shut off by ice longer. The Amur at Nikolayevsk has an ice covering for a mean of 184 days. The table appended to this chapter gives details on this ¶

As a consequence of the northwest winds which set in already in September and especially in October, the Sea of Okhotsk comes under continental influence early. At the end of October and in the first half of November ice formation begins along the northern coast. The thickness of the ice grows until into March, persists through April, and only in May does the disintegration of the ice begin. Almost at the same time the breaking up of the ice also begins, at first at the mouths of the rivers and then along the coast. This type of breaking up fosters the destruction of the solid coastal ice, which is then further broken up by the wind and battered by the waves. As a consequence of the current the ice is driven toward the west and southwest and collects in Udskaya Bay and at the Shantar Islands in the southwestern corner of the Sea of Okhotsk. As a consequence of this the ice persists the longest in these places. Even in July large ice fields can be

¶ [cf. pp. 231-232 -- Analyst]

encountered there. Thus the steamer 'Tula' ran into extensive drift-ice fields between the mouth of the Amur and the Ayan between the the 20th and 28th of July, 1916. It /199/ /Sketch Map of the Highest Level of Ice Distribution/could neither get into Uiskaya Bay nor sail toward Nikolayevsk on the Amur and had to return to Vladivostok via La Perouse Strait with its load without having reached its goal. Equally noteworthy is the fact that on January 20, 1940, the merchant steamer 'Igarka' was able to reach Ayan without impediment and without the aid of icebreakers. It was the first attempt at a winter trip in this territory. On the return journey, however, the ship became locked in heavy ice and required the icebreaker 'Krassin' to free it. Apart from the southwest corner and the northwest bays /200/ the Sea of Okhotsk is generally ice-free in June. The bays on the north coast are already completely blocked by solid ice by the end of November. This solid ice covering then grows all along the coast farther into the sea. Penzhina Bay provides one exception to this rule. The formation of a solid ice covering is prevented at Penzhina Bay by a tidal current with a tidal hub /Tidenhub/ of up to 12 meters. Heavy pack ice masses thus collide. The ice lasts both here and in the neighboring Gizhiga Bay until the middle of July.

132 [305]

The ice conditions appear to be most favorable on the western coast of Kamchatka. The northeast and east winds break up the ice near the coast and drive it into the sea. Even in the middle of winter a strip of ocean is kept open in the vicinity of the coast, while at a greater distance from the shore heavy masses of ice remain fixed throughout the entire winter.

The passages between and the coasts of the Kurils, which lie between Kamchatka and the Japanese Hokkaido, are stopped up with drift ice from January to the end of March when the winds are from the west and northwest, but otherwise they are passable: the farther to the south the easier the passage. Often drift ice between the southern Kurils is driven out far into the Pacific, where drift ice can be encountered in May and even into June if the winter has been especially harsh.

The eastern coast of Kamchatka, in so far as it belongs to the Pacific Ocean, has no ice formations which interrupt ship traffic. To be sure there is drift ice everywhere, but this collects into larger masses of pack ice only on the sand banks in the vicintiy of the coast. Solid ice forms in the bays--for example, in Avacha Bay, on which Petropavlovsk, the capital of Kamchatka, lies. However, the ice

132 654 service and help from ice-breakers, could very much expand the usefulness of the parts of the sea threatened by ice. And here the Soviet government has accomplished excellent work worthy of recognition.

505 The center of all the coastal traffic is Vladivostok, from which all lines start. Sea traffic is most active in the most southerly part of the coast as far as Nikolayevsk on the Amur. However, the more northerly localities are also visited regularly several times a year. The longest line leads to the mouth of the Kolyma, whence a trip by one or even several steamers at the same time is undertaken every year. Of the 2,021,000 tons of goods turned over in the harbor of Vladivostok (1935), 864,000 tons came from coastal traffic.

The following figures on distances may explain transportation conditions:

Coastal Steamer Lines

Distances from Vladivostok

Sovyetskaya Gavan'	1,075 kilometers
Aleksandrovsk on Sakhalin	1,335 kilometers
Nikolayevsk on the Amur	1,575 kilometers
Okhotsk	3,210 kilometers
Petropavlovsk	2,785 kilometers
Anadyr'	4,640 kilometers
Mouth of the Kolyma	5,200 kilometers

(Next table on following pages)

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/205/ B. SPECIAL SECTION

/206/ /Blank/

/207/ THE PROVINCES

General Division

133 As the general survey has already shown, the geographical conditions of even a large division of the entire region fall into 1

1 [Ct. Cat. 133, p. 232 for continuation - Analyst]

133 over long years, Lake Baykal remains for 116 days under a solid ice
132 covering, which can attain a thickness of up to 1.25 meters.

The fauna of the lake[1] is peculiar, representing a true collection
136 of endemic forms. Of the 1,000 types determined so far, around 75 percent are endemic. Here in the middle of the continent there is a type of seal called "nerpa" by the Russians (Phoca sibirica), which is related both to the same type found in the Arctic Ocean (Phoca hispida) and also to one found in the Caspian (Phoca caspia). The next fauna worthy of mention is the small, viviparous spider fish (Callionymus baicalensis), whose family (Comephoridae) is peculiar only to Lake Baykal. Exceedingly large is the number of mollusks. To date 85 types have been determined, of which two endemic families of brachiopods (Benedictiidae and Baicaliidae) are typical fresh water representatives. The great age of the Baykal fauna, which must have followed an isolated development, indicates the /209/ /Sketch Map of the Provinces://210/ appearance of the Baicalia mollusks already in the fresh water deposits of the lower Cretaceous in Transbaykal.

●505 As a result of its depth and its favorable natural landing places, Lake Baykal offers the best opportunities for water transportation. A steamer line which is traveled regularly, connects all the larger settlements with one another and also serves the transportation of goods. Wood constitutes the bulk (40 percent) of the goods transported, in second place are stones and building material (30 percent), then follow fish, salt, flour, and others. The wood as a rule is floated down the rivers to the lake and then is transported by steamer tugs to the mouth of the Angara, where it is transferred to the railroad in Baykal station, which is equipped with mechanized loading equipment, or a small part of it is floated directly to Irkutsk. Wood is delivered on the Transbaykal side primarily by the river areas of the Barguzin and the Upper Angara.

228 Also of economic significance is fishing, which is pursued both in the open sea and also in the bays. The principal role in this fishing is played by the catching of a type salmon, the omul (Coregonus omul Pall. or Coregonus migratorius), and of fish related to the omul: these fish constitute 58 percent to the catch. In second place are types of carp (22 percent), which are caught primarily in the lagoons and in neighboring lakes. Also the catch of seals, already mentioned, is not insignificant. In 1948 there were 1,380 animals caught. Fishing is pursued both by the state and also by fishing kolkhoz. The latter caught 68 percent of the total catch in 1949, while the state was

[1] [i.e. Lake Baykal -- Analyst]

133 permafrost, however, create great difficulties. Development of the area is hampered by the area's remoteness and the difficulty of gaining access to it, since the break-through valley of the Zeya toward the south represents the sole gateway to the depression. To date the [505] supplying of the area has been done on the water route as far as the locality of Zeya, for the Zeya River is navigable to this point. The [491] supplies are then brought by vehicles further up the river. The area around the upper course of the Gilyuy is crossed by the highway from Never to Yakutsk. This highway crosses the Tyndinsk, a tributary of [496] the Gilyuy, at Tyndinsk. The new Baykal-Amur Railroad, coming from the Nyukzha valley, is also supposed to enter the valley of the Gilyuy at the same place and to follow the Gilyuy as far as the Zeya, in order then likewise to use the Zeya's break-through valley as an exit toward the south. The laying of this railroad line through the Zeya-Gilyuy depression is expected to lead not only to better opportunities for exploiting the gold fields but also to the use of the rich supplies of wood in the forests, and finally also to better settlement of the area.

/240/ The depression of the upper Zeya and Gilyuy is cut off into a vast basin on the south by a watershed mountain chain. The Zeya is the sole river flowing off to the south in this basin. This mountain chain is regarded as a continuation of the Daur and the Shilka mountain ranges; it stretches from Transbaykal via the Olekminsk Stanovik to the depressions of the Amgun (left tributary of the lower Amur) (207). This entire line of mountain ranges was, according to

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, 2 vols., (Odessa, 1923), p. 250.

Ahnert (16), formed partly by faulting but principally and especially

16. Anert /sic/, E.E. Kratkii geologicheskii ocherk Priamuria /Short Geological Sketch of the Amur Region/. Geological Research in the Gold Regions of Siberia, Vol. XVII. Petersburg, 1913.

on the southern edge, by break formations. Within the Oldoy-Zeya Highland the chain of mountain ranges begins in the west with the Yankan Mountain Range, which lies between the upper courses of the

on the Manchurian side, lies the city of Heino (Sakhalyan), from whence there is a spur to the railroad network of Manchuria. The area around the lower course of the Bureya has the same character in terms of landscape as do the plains on the Zeya. The nearness of the highland permits the basic rock to come out more often here. The population is likewise dense and in the valley of the Bureya penetrates farther toward the north into the highland. The center of the region is the little city of Bureya, which lies at the point where the railroad crosses the Bureya River. A railroad line, which is 43 kilometers long, branches off from here to Raychikhinsk, the center of the largest brown coal deposit in the Amur country. Zavitaya, from which a new railroad line has been built to Poyarkovo on the Amur, /249/ has acquired a growing importance during the most recent period.

The brown coal fields lie between the railroad and the Amur and stretch from the Bureya in the east to the Zavitaya in the west, covering an area of 600 square kilometers. Raychikhinsk and Kivdinskiy are the centers of the coal mining. The transporting of the coal is done for the most part by railroad to the Bureya station, where there are opportunities to transfer the goods to river shipping.

The northern part of the Zeya-Bureya plain is drained primarily by the Selemdzha. The population here decreases rapidly toward the north, and settlement is limited to the valley areas of the rivers. On the Zeya, settlement reaches to the town of the same name at the foot of the Tukuringra Mountain Range; and on the Selemdzha, settlement ends approximately at Norsk. Both rivers are regularly traveled by steamships as far as the localities named. With the new construction of the BAM, which goes from the middle Zeya and runs through the area toward the east and crosses over the Selemdzha at the locality of Norsk mentioned above, new prospects have opened up for the further development of these regions, which are favorable for settlement but which in the past were too remote.

The Bureya Mountain Country

The Bureya Highland has a central position in the Amur country. It forces the Amur to make its large southern bend; and, in the south where it joins the Little Khingan, it makes a path to the east free for the Amur only in a narrow break-through valley. In the same place the Bureya Highland shoves itself like a wedge into the great depressions running along the Amur and separates the Zeya-Bureya plain in the

133 west from the depressions on the lower Amur and Amgun.

For the most part the highland comprises, as its inner zone, the drainage area of the Bureya, which also is bordered by the two main chains of the highland: i.e., in the west by the Turana Ridge, which is the watershed toward the Zeya, and in the east by the Bureya Mountain Range, which represents the watershed toward the lower Amur.

The Bureya Mountain Range forms the backbone of the highland. It begins on the Amur as the continuation of the Little Khingan which stretches from Manchuria over the river toward the northeast. The Bureya Range is, therefore, also known under the name of Little Khingan. But here the Russian geographers, who designated the mountain chain generally as the Bureya Mountain Range, are to be followed. These mountains run principally toward the northeast, though the direction of individual sections changes from place to place. This continues until the mountain range runs into the already mentioned Dzhagdy Mountain Range, which comes from the west. Here in the north individual sections are known under special names: thus, the Duse-Alin', which in an arc surrounds the left source river of the Bureya (Levaya Bureya), and, adjoining the Duse-Alin' on the north, the Yam-Alin', which flows into the Dzhagdy Mountain Range. The Tam-Alin' and the Dzhagdy border on the north and the east the gold-rich area /250/ around the source and the upper course of the Selemdzha; while from the southern part of the Yam-Alin' a mighty massif, forming a watershed, shoves in toward the west between the Selemdzha and the upper Bureya. Here in the northern part of the Bureya Highland, where immense high plateaus unite in a narrow area, there also lie the highest elevations of the Bureya Mountain Range and also the highest elevations of the entire highland. The Yam-Alin' has several peaks which project 2,000 meters. Its highest point reaches 2,215 meters. Also the watershed massif between the sources of the Selemdzha and the Bureya has several gol'tsy, which are only a little inferior to the Yam-Alin' peaks and which project between 2,115 meters and 2,155 meters.

316 The area around the source of the Selemdzha is rich in gold and has gold-washing installations, which are in part mechanically run. But the remoteness of the region causes the very great difficulties to the works which are directed by the state. The primary supply route is the Selemdzha, which is regularly traveled by steamers as far as Norsk, often designated as Norskiy-Sklad. And under favorable conditions the Selemdzha is even traveled as far as Selemdzhinsk.

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137 in constantly from the sea in the summer, have given these forests a peculiar appearance. The branches are covered with long lichen, which hang down like beards, and moss grows on the stems as far as the boughs. A thick layer of moss also envelops the earth, and with every step water springs from the damp cushion. In the deeper places and also in the middle part of the highland, larches then appear as forest-formers, and the forests gradually become purely larch forests, and also fill the valley areas as far as the middle courses of the great rivers and press far to the south. The reason for this can be seen above all in the fact that the cold air masses flow down into the valleys and thus prevent the expansion of other types of trees. Only on the lower courses of the rivers flowing toward the south do deciduous trees set in. The larch forests which cover the bulk of the Bureya Highland are economically the most valuable.

316 The valley of the Niman was once among the most famous of the gold fields in the Far East. But the deposits are already exhausted. In their place the gold fields in the area around the upper course of the Bureya have now appeared, but these cannot compete in yield with those of the Selemdzha. The valley of the Bureya serves as the con-
•505 necting path to the gold dressing installations. When the water level is good, the Bureya can be used by steamers for 345 kilometers as far as the locality of Chekunda, and occasionally even as far as Umal'ta. From Chekunda down the greater drops already work so strongly against water vessels that from here on the boats as a rule have to be drawn by
487 horses. The last part of the way then is traveled by car or with riding horses and pack horses. An extension of this route toward the east leads over a pass, which is more than 1,000 meters high, to the gold fields on the upper course of the Kerbi, a tributary of the Amgun, which already belongs to the lower Amur. This much-traveled old Bureya gold route has today for the most part lost the importance it once had, since rich deposits of molybdenum and especially of coal have been found in the valley of the upper Bureya and a railroad has been built there.

316 There is molybdenum in the valley of the Umal'ta, a left tributary of the upper Bureya. Here a great molybdenum works has been erected in Ust'-Umal'ta. The hard coal deposits fall into two parts, into the deposit on the upper Bureya and the Tyrma deposit, which are separated from one another only by tectonic occurrences with
496 succeeding erosion. For the /252/ opening up of these deposits a railroad line is being built from Izvestkovyy, which lies west of Birakan on the Amur Railroad. This new railroad line leads over the Bureya

Mountain Range to the upper course of the Tyrma and then follows this river to the point where it empties into the Bureya. The railroad had already been completed as far as Ust'-Tyrma in 1942. Since then the construction of this railroad, which now runs parallel to the course of the Bureya, has been continued via Chekunda to Umal'ta. With this an outlet has been created for Bureya coal toward the south to the Amur Railroad, but the waterway of the Bureya is also used to transport the coal away. The expansion of this waterway is being worked on. In addition, there is the fact that the Baykal-Amur Railroad also crosses the same region. This railroad leaves the Selemdzha at Norsk, crosses the Turana Ridge and reaches the middle course of the Bureya at Chekunda, to continue further over the Bureya Mountain Range to Komsomol'sk.

The construction of both these railroads in the sphere of the Bureya Mountain Range has above all an industrial significance. Next to coal, wood is the most important item for transport which this region can supply. In the traffic going the other way, the bringing in of food is probably the main task of the railroads. The Bureya also plays a certain role in this connection; for, according to various reports, continuous loads of grain go up the river during the period when it is navigable. The supplying of the new Bureya coal region must be assured from outside because the Bureya valley itself is very unfavorable for agricultural settlement. Everywhere here the Bureya has the character of a mountain river. Its valley between Ust'-Umal'ta and Ust'-Niman is up to 3 kilometers wide, but the river, which here is very wild, regularly floods a part of this country and causes extensive swampiness. From Ust'-Niman to Chekunda the right bank is steep and rocky; the left bank is, to be sure, level, but it is taken up by swamps which are difficult to travel. Below Chekunda as far as the settlement of Paykan the valley narrows, and on both sides the rocky mountains come right down to the shore. Only shortly before leaving the mountain ranges does the valley meadow widen into an area favorable for settlement. Thus the prospects for agrarian settlement in the area of the Bureya valley are not very good, and it will require long years of difficult cultivation work before the new coal mining region will be able to supply its own food.

If we survey the entire Bureya Highland, then, it can be determined that, apart from the spottily occupied gold regions in the north and apart from the Bureya and Tyrma valleys which are now filling up with people in a limited area, the other regions are as good as

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

133 361 Of the more favorable bays on the northern part of the Sikhote-Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has developed quickly into a city with more than 20,000 inhabitants. It has also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

361 For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

133 361 The real, vast mountain massif of the Sikhote-Alin' is very sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Isiubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

137 Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

133 [137] which consists of recent and post-Pliocene deposits and which for the most part is covered by a tundra vegetation interlarded with bushes. The extent of this plain varies, being largest in the north around Sakhalin Bay. The plain ends in a 2 to 6 meter step which is delineated rather sharply everywhere. With this step the hill country then begins. This hill country as a rule bears a thick taiga consisting of spruces and larches. The watershed regions are scarcely perceptible in the relief, but they show up in thicker and higher forest growth. In places the hill country step also goes to the coast itself and then forms a higher, steep slope, which can reach 15 to 26 meters. (207) Taiga and sea

207. Tanfiliev, G.I., Geografiia Rossii: Relief Aziatskoi Rossii /Geography of Russia: The Relief of Asiatic Russia/, (Odessa, 1923), Vol. II, p. 266.

then come very close to one another.

Schmidt Peninsula, so named in honor of the well-known Sakhalin explorer, forms the extreme northern end of Sakhalin. This peninsula forms in miniature a true model of the geological and tectonic structure of the southern section of the island, with even the intrusive phenomena being the same. Here, too, we find an eastern mountain range and a western mountain range with a depression lying between. In the "Tri Brata," the "Three Brothers," the eastern mountain range reaches a height of 708 meters. For the most part this range declines steeply to the sea, and in the north it forms the rocky Cape Elizabeth, the most northerly point on Sakhalin. The western line of mountains, which likewise declines steeply to the sea, attains a height of only 406 meters. The depression lying in between ends in the north with a lake, which is separated from the sea by a narrow tongue of land. On the land narrows which connects Schmidt [315] Peninsula with the main part of the island lies the oil fields of Sakhalin which today have the richest yield.

Sakhalin's coast is generally but little divided up. In contrast to the more contiguous western coast, the northern coast and the east coast represent typical coasts with alluvial lands and numerous fresh-water lakes. Baykal Bay in the northern part of the island represents [505] the largest fresh-water lake. It can be traveled by coastal ships with a draught of up to 3.5 meters. Here on the eastern side of the bay lies Moskal'vo oil harbor, which has a railroad connection to the oil region in the eastern part of the peninsula. Still more strongly marked

watershed regions, and thus he can still go forward best along the slopes.

The Amgun region is as good as uninhabited. Only on the largest rivers is human life to be encountered here and there: wooden huts of some Gilyak or also of Tungus Olcha and Negidal, who live from fishing and hunting. On the Amgun itself, however, there are already Russian settlers, who have come together into some small localities. The most important is Kerbi which lies at the mouth of the river of the same name. The Amgun can be traveled by small steamers as far as Kerbi. The Amgun brings goods to supply the area here, and the goods are then towed in boats down the Kerbi to the gold regions.

The valley of the Tugur becomes up to 20 kilometers wide and gives the same picture. Here, too, moss moors extend far down the valley. The swampiness is strengthened here still more by the appearance of permafrost.

/286/ The river area of the Uda is very extensive. In the Uda collect waters which come from the Dzhagdy Mountain Range and also from the Dzhugdzhur Ridge. The Uda's left tributary, the Maya, which is more than 300 kilometers long, separates the Stanovoy from the Dzhugdzhur. Here, too, the great swampiness causes the traveler great difficulties. The Uda is a mountain river and flows seethingly in a bed filled with boulders and interrupted with numerous rocky islands. Only in its lower course does the Uda become quiet. Here lies Udskoye, a small Russian village, which is the center of the hunting of fur-bearing animals. This hunting still brings very rich yields in these remote mountain regions.

The Okhotsk Coastal Area

The area includes the entire western and northern coastal region of the Sea of Okhotsk, beginning at the Uda in the south and ending at Penzhina Bay in the north. With the coast being more than 2,000 kilometers long, the conditions, of course, vary in detail, but in general the prevailing character of a raw mountain forest landscape with a damp and cool climate is preserved, which is less tolerable for man than the harsh contrasts of the continental interior.

The region can be divided into two parts according to the structure of the coast and according to its forms: a southwestern part between the Uda and Okhotsk with coast which is little divided up and a northeastern part which is heavily broken up by numerous large and

small bays, peninsulas, and islands. The character of the southwestern part is determined only by a line of mountains stretching parallel to the coast, the Dzhugdzhur; in the northeastern part ridges of mountain ranges are predominant which stretch irregularly toward the line of the coast. 133

In the western part, the Dzhugdzhur coast, the mountain ridges go right down to the sea and leave free for settlement by man a narrow coastal strip, which at most widens somewhat at the mouths of the rivers. The Primorskiy Ridge, which lies in front of the Dzhugzhur chain in the south between the Uda and the Ayan, even declines directly and steeply into the sea. The Dzhugdzhur, which stretches parallel to the coast and consists of several ridges, forms a contiguous mountain wall with its masses formed predominantly of granite, gneiss, and porphyry. This mountain wall shuts off the coast from the interior. The mean height exceeds 1,000 meters, and the few unprotected passes also lie almost as high. The watershed runs in the vicinity of the coast, and thus along the entire coast only short rivers, which, however, seethe because of the steep slope, flow down into the sea. Therefore, the deeply etched valleys opening on the sea stand in sharp contrast to the more horizontal lines of the round peaked surface of the massif of the mountain range. The valleys are filled with thick /287/ taiga, teeming with underwood, and, with the narrow bottom of the valley saturated with boulders and scree, these valleys offer man only a very difficult opportunity to penetrate into the mountain range; and yet these sharply etched and steeply rising valleys are the sole routes which lead from the coast into the interior of the land. Thus the fact that the coastal strip is cut off from the hinterland is a special mark of this region. The ridge is more thickly forested only on the slopes, while the heights themselves have only a spotty, crippled growth of trees or lie completely bare in the highest places. The passes, too, mostly lie above the tree line and are scarcely usable in winter as a consequence of violent snowstorms.

The interior of the mountain ridge is as good as uninhabited. 361 505 Apart from hunters, only a few Tungus with small reindeer herds cross the desolate mountain areas. On the coast there are a series of Russian fishing settlements. The principal locality here is Ayan. It lies on a favorable natural bay, which is approximately 1 kilometer both long and wide and 6 to 38 meters deep. Since the entire Dzhugdzhur coast is blocked by ice in the winter, the harbor can be used only in summer, although constant violent sea winds often hamper the departure of sea

361 ships and indeed in many instances make departure impossible. From
505 Ayan a route starts toward Yakutsk. This route rises steeply over the
● mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

361 In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an
563 important fish collection point. On the coast and also in the hinterland
241 of the depression, numerous Russians have settled. In addition to an
231 agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

133 Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same names. During the summer, connection between these localities is maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

[505] [487]

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities 491 are Orotukan and Khatynakh. For connection with the outside world a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

almost never penetrates into the land, however. 000

The area occupied by settlements is very slight in the east and 361 in the center of the depression. In the west, on the other hand, there 563 are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives.

There are only a few settlements on the coast because of its 361 flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region [505] and is regularly visited by coastal steamers. A short while ago rather [135] large Eocene brown coal fields were found in the vicinity of the locality. The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/ and supplies the coastal steamers. In addition, Anadyr' is the central [255] station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory.

Toward the southwest the Anadyr' depression goes over into the 133 Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which

however, the NKVD appoints the head of Dalstroy, leaving to him the selection of his assistants. Authority is held and exercised solely by Dalstroy, and everybody who represents this authority is appointed by the head of the organization or his assistants acting as his agents. Every inhabited place has a "commandant" who has authority over the territory under his control. Under Dalstroy rules this commandant has the right to inflict the death penalty on all prisoners. 625 642

A somewhat different status is accorded to the remnants of the native tribes which form so-called "national districts." They enjoy various privileges and are given assistance by the Soviet Government; however, it should be noted that these privileges and assistance can be considered as such only in comparison with the position of the prisoners. These local tribes number only a few thousand, and even in their national districts they have no real authority to govern themselves. [563]

4) Population: The population of the region[1] is not accurately known, primarily due to the continual turnover of prisoners who are imported by the hundreds of thousands yearly and who die at almost the same rate. Before the discovery of gold and the creation of Dalstroy, the local population could hardly have exceeded 25,000 to 30,000; according to the census of 1926-1927 the population of the Kolyma region was 7,580. It is very unlikely that the number of aborigines has materially increased under the rule of Dalstroy; in fact, during the first period of the Revolution the native population showed a marked tendency to decrease. 161

However, the total population of the Kolyma region during the Dalstroy administration has grown fantastically, and the only explanation is the importation of prisoner labor. The exact number of prisoners cannot be determined for obvious reasons; however, according to a report by a Soviet seaman who formerly served on ships running between Vladivostok and Magadan the entire Kolyma region is 505 466

> "a single concentration camp. Into it have been thrown huge masses of the repressed. How many of them he cannot say exactly.... In his opinion it may be calculated with considerable accuracy that during the years 1937 to 1940 not less than a million and a half persons were brought on steamers from Vladivostok to Magadan; during each navigation season from April to November four Dalstroy steamers (Felix Dzherzhinskiy, Dalstroy, Soviatsia, and Dzhurma) were in operation, each making from 12 to 15 voyages in the course of the summer and bringing from 6,000 to 9,000 persons on each voyage."[1]

(Note: Radio Magadan in a report on 24 October 1955 stated that "Nagayevo port vessels -/Nagayevo is the port servicing Magadan/- have fulfilled their annual cargo delivery plan 105.8%...the seagoing vessels of the Nagayevo maritime port overfulfilled their 8 month cargo delivery plan but failed to fulfill their 9 month plan. The leading place among seagoing vessels is being held by the steamship 'Felix Dzherzhinskiy.' Good results were also achieved by the steamship 'Dzhurma' which is on its way from Nakhodka to the Kresta Bay carrying vegetables, foodstuffs, manufactured goods, fruits, construction and technical materials, and equipment." The interesting feature of this report is the fact that the steamships "Felix Dzherzhinskiy" and "Dzhurma" which were definitely known to be transporting laborers in 1940 are still plying the same route and very likely are carrying the same "freight" because the hulls of these two ships are known to be constructed to carry prisoners, not freight as stated.)

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1 Dallin, David J., Forced Labor in Soviet Russia (New Haven, Yale University Press, 1947), pp. 136-137 [i.e., Kolyma - ANALYST]

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According to other sources the number of ships in Dalstroy service is higher than the four ships cited above; it has been positively stated that in 1940-1941 five more steamers (Minsk, Kiev, Igarka, Komsomol, and Uritsky) and the icebreaker, "Sakhalin," were in operation with a total shipping capacity of 35,000 passengers. (Note: Local Soviet Far Eastern radio stations which service areas with shipping administrations have been noted to make reference to the Uritsky, and in the course of the past six months a vessel named "Komsomolsk" may be the ship "Komsomol," as included in the ships carrying slave labor. This possible identification is noted because monitoring of local Soviet Far Eastern radio stations has always been plagued with the difficulty of "making out" names of persons, ships, and the like."

It goes without saying that prisoners were also shipped into Kolyma by the northern route—the run from Archangel east through the Arctic Ocean. This route was attempted because during the 1930's Soviet ships carrying slave laborers on the run from Vladivostok to Magadan passed through the Sea of Japan and the Tatar Strait, both of which were constantly filled with Japanese vessels; for obvious reasons, the Russians were not too eager to have the Fascist Japanese circles learn of this Soviet cargo. However, due to the extreme difficulties of navigation along the northern route, successes were few; instances of ships carrying laborers being caught in the ice with no survivors were not few. In summation, even if the northern route is discounted, the importation of 400,000 to 500,000 laborers annually is not impossible.

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Recent estimates of the total population of the area have ranged between 300,000 and 1,000,000; however, inspite of the fantastic death rate among prisoners, millions have been imported as laborers, and there is reason to believe that there is approximately between one and one and a half million people in the area.

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5) Development of the Kolyma Area (1927-1939): Commercial gold mining really began in the Kolyma fields in 1927, and at first the entire production was in the hands of free agents who ventured into the area. "In 1929, according to official Soviet statements, gold was being panned in three fields,.... There were altogether 65 prospectors working in the three fields, and a total of 108 men living in the adjoining settlements."[2] According to Soviet law at that time, all gold was to be delivered to the government trust, Soyus-Zoloto (Union Gold); however, no branch of this trust was closer to the Kolyma gold fields than that office in Okhotsk, which was still more than 1,000 miles from the fields. Furthermore, private gold buyers were willing to pay a higher price for gold than was the government which was attempting to keep gold prices on a level with the rising prices of commodities. This situation had the result that a large "black market" in gold arose, and much of the gold, according to Soviet officials, went into the hands of the Japanese, whose fishing boats were almost omipresent in the Sea of Okhotsk. These fishing boats brought merchandise to sell in the gold fields, and this can be substantiated by the fact that much of the goods in the Magadan area at that time bore Japanese labels.

The Soviet Government found itself faced with two possible solutions to the problem: either it could permit free-lance gold prospecting as had been the case in California and Alaska, or it could invest a large amount of money into the area in an attempt to build up its own resources for extracting the gold. The first measure was hardly feasible, especially by a government whose basic principle was opposition to free enterprise, and the second possibility was practically impossible because the Soviet Union at that time had no money to invest. It was in this manner that the Soviet Government decided to invest its only and largest asset at that time—people. However, since few volunteers were

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2 Ibid., p. 113. 1 [the Kolyma region—Analyst]

kilometers, and its population numbers /255/ 108,400 (1939), of which approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000 inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking installation has been added to the older oil refinery in order to process the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

where it flows for another 414 kilometers. In this part the Selenga is 133
200 to 450 meters wide and has a mean depth of 1.6 meters. The 505
mean velocity reaches 5.6 to 8.5 kilometers per hour. Apart from a bar off the mouth, which makes entrance into the river difficult, there are no large hindrances here, and accordingly the Selenga can be designated as completely navigable in this part. Occasionally smaller steamers travel 480 kilometers into Mongolia during the high water period in the summer. The period when the river is navigable lasts exactly half a year. The water level during this period fluctuates approximately 2 meters as a mean. Regular steamer shipping /194/ has developed as far as Ust'-Kyakhta. The tributaries are traveled as needed. The largest tributaries are the Chikoy, which is more than 740 kilometers long and is navigable by ship for 249 kilometers; the Khilok, which is 742 kilometers long; and the Uda, which is 403 kilometers long. The center of water transportation is Ulan-Ude, where [504] there is also a dockyard for steamers and barks. In connection with the Selenga there is also water transportation on Lake Baykal and on the Angara as far as Irkutsk. The total number of steamers here in 1930 was 87, and the total number of barks was 185 in contrast to only 13 steamers and 18 barks in 1912.

The importance and the capacity of water transport on the 505
Amur exceeds that of the Selenga by several fold. The following table gives a comparison:

Water Transport 1939
in 1,000 tons

	Total	Oil	Wood		Grain	Mineral Construction Materials	Salt
			By ship	By raft			
Selenga	200	7	7	91	45	14	1
Amur	1,305	191	11	645	186	65	13

Air Transport

Air transportation was early introduced into the entire Far Eastern 509
region to overcome the great distances. The main line coming from Moscow leads via Chita and Khabarovsk to Vladivostok. Beside the direct line, flights are made along this stretch to the following localities: Ulan-Ude, Chita, Nerchinsk, Mogocha, Skovorodino, Tygdinsk, Svobodnyy, Arkhara, Birobidzhan, Khabarovsk, Bikin, Iman, Voroshilov,

509 and Vladivostok. An important line leads from Ulan-Ude to Ulan Bator in the Mongolian People's Republic with a stop en route in Kyakhta. Khabarovsk can be named as the special center of air transport. From here the air lines go the north. Regular flights are made to Komsomol'sk, Okha and Aleksandrovsk on Sakhalin, then to Ayan, Okhotsk, Petropavlovsk on Kamchatka, and Anadyr' in the extreme northeast. However, the air transportation also performs purely economic tasks. Thus regular flights are made to the gold fields on the upper Barguzin from Ulan-Ude and to the gold regions on the upper Vitim (Tsipikan) from Chita. Also the polar stations along the coast of the Arctic Ocean are supplied by airway. Beyond the regular lines, occasional flights are also made into the remotest regions. In the summer seaplanes are also used; they fly along the great rivers and can go down on the water at all times and everywhere. In winter, on the other hand, airplanes are used which are equipped with gliders /Gleitscheinen/ which enable the planes to land on slick ice and snow surfaces.

/195/ Tranportation of the North

489 The vastness and the slight population of the entire vast north has made it unnecessary to build routes apart from some few overland roads; and accordingly the entire area can be designated as without routes of any kind. Traffic here is accomplished within moderate limits on natural routes through the forests, on narrow paths through the mountains, and in the open tundra areas via the open plains. As a consequence of the great dampness and the heavy formation of swamps, all forms of land transportation cease in summer in many places, and transportation is then limited to boat traffic on the rivers, which during this season offer the best means of transportation. Many localities are often cut off from the outside world for weeks and months. The transportation of goods is completed primarily in the winter, which constitutes the main traffic period for the entire north. These pathless regions begin already in the northern part of the Amur region, and in the Amgun area even reach the Amur itself. Characteristic [493] for these regions is the sled as the main means of transportation, while the characteristic draught animal is the reindeer or dog, or less commonly the horse. These are means of transportation such as have been developed by the native Tungus and Paleoasiatics; and they have to be used also by the Russians for trips and for the transport of goods, because in the present state of development there are just no other possibilities for transportation.

316 [491] [509] Land road connections also exist toward the south via Romanovskoye on the Vitim to Chita. A rapid and continuous means of transportation has recently been ensured by an airline, which is flown regularly and which connects Chita with Tsipikan, the center of the northern gold district.

133 To the north of the Tsipa-Bambuyka valley rises the Muya mountain country, which is divided into two long ridges by the river of the same name which flows toward the northeast to the Vitim. These two long ridges are the Southern Muya Mountain Range and the Northern Muya Mountain Range. The northern border of the latter is formed by the extended valley of the Upper Angara, which flows toward the west-southwest to Lake Baykal.

The Southern Muya Mountain Range, a mighty, massive horst, forms the watershed between the Tsipa and the Muya. It has a raw, wild appearance with a ridge of numerous gol'tsy, with an entire series of heights, crowned with snow, rising over 2,000 meters. The picture of the entire mountain range, however, is not unified, and the wealth of varying forms is determined by the change in the rock. The former root surface is, to be sure, heavily destroyed, but it is still always recognizable. In the higher places traces of an old glaciation are to be found everywhere in the form of circus /circular?/ valleys/Zirkustäler/, trough valleys, round basin lakes /Karseen/ and basin moors /Karmooren/, and, in the valleys, deposits of boulders and rubble. Because the Muya Valley lies at the slight altitude of 450 to 600 meters, the slope toward the north is much sharper than the slope toward the south to the Tsipa Valley, which generally has a height of more than 900 meters. The passes are difficult, small in number, and 1,450 to 1,700 high. From the swamps at the foot of the mountain range rise slopes covered with thick taiga. Here the ascent into the narrow valleys overgrown with shrubs is especially difficult. Only at heights where the vegetation discontinues, is there an opportunity for free movement.

The valley of the Muya is determined tectonically as a depression. It attains a width of up to 30 kilometers. A mixture of deposits of old and recent date makes the valley plain appear rich in variety. Hills, long embankments, sand bars with closed off lakes, in between swamps and moors displace one another. Terrace formations on the border of the valley and widely diffused lake sediments permit the basin of a former lake to be recognized in the valley.

The Northern Muya Mountain Range, likewise a horst, is

133 northern edge it represents.

The Oldoy Highland is the smallest part of the region as a whole, and it comprises the area between the Yankan Mountain Range and the Amur. Already from the region around the source of the Oldoy toward the south the landscape flattens out and dissolves into individual ridges, mountains, and valley areas, giving the overall impression of a mountainous and hilly landscape. Toward the southeast, between the Urkan and the Amur, the broad hill ridges gradually disappear altogether, and the landscape here flows into the so-called Amur-Zeya plateau, which already belongs to the greater landscape of the Zeya-Bureya plain area.

491 The Oldoy Highland is traversed in the north by the Amur
496 Railroad, from which a railroad line to the Amur harbor of Dzhalinda branches off in Skovorodino (more than 20,000 inhabitants), the seat of a railroad office. Thus, in terms of transportation, this region is quite well opened up. This is also true of the most heavily populated parts within the overall region. The alluvial sands of the rivers to the north of the Amur Railroad, especially the valleys of the upper Oldoy, and of the Great and Lesser Urkan, are rich in gold. The built-up highway which is mentioned above and which can be used throughout the year, leads from the station of Never (around 10,000 inhabitants). This highway crosses the Tukuringra Mountain Range and the Stanovoy in its western part and goes via the Aldan gold fields to Yakutsk. It reaches Tyndinsk in the area around the upper course of the Gilyuy. This important highway has recently been supplemented by a railroad line from Skovorodino to Tyndinsk, where there is a spur to the great Baykal-Amur Railroad (BAM). With this a direct cross-connection between the Amur shipping and the BAM is supposed to be created. The new railroad line, in addition, opens up new areas for settlement, just as the construction of the Amur Railroad has become a pacemaker for heavier settlement by an agricultural population. Also in the less swampy valley areas between the railroad and the Amur River agriculture is
361 pursued relatively actively. Accordingly, a lively food industry and also machine building shops and repair shops have been able to develop in Skovorodino, which has already been named as the center of the Oldoy Highland. Brown coal, which is mined in the vicinity, is used as the raw material for energy. To the north of the city tin supplies
[509] have been determined. An airfield in the vicinity connects Skovorodino to the great airline running from Moscow to Khabarovsk to Vladivostok.

563 As already been said, the Buryat Mongols have a cultural
617 administration of their own in the Autonomous Soviet Republic named after them and in the national districts already listed. Using the Russian alphabet, they have created their own writing. Elementary schools have permeated the entire land, and there are also higher schools in the cities; hence, according to Soviet claims, illiteracy has been almost completely eliminated. Newspapers appear in the Buryat language, and in Ulan-Ude even a Buryat-Mongolian theater has been brought to life. Numerous cultural institutions provide political enlightenment. Like all autonomous regions in the USSR, the Buryat Mongol ASSR has, as it is called in Soviet literature, a culture which is national in form and Socialist in content. This goal is also strived for with the other old peoples. In the national districts such as the Chukchee (capital Anadyr') and the Koryak (capital Palma) have, so-called "Kultbazen" (culture bases) play an important role in this connection. Since continuous measures for influence and
[658] education are not possible with areas so large and populations so widely scattered over these areas, there have been created for this purpose culture bases which are visited on occasion by the natives. How life in such a culture center can be envisaged is described by Nicholas Mikhailov (Land of the Soviets, New York 1939, p. 187): "When a hunter or reindeer breeder enters a culture base, he is provided with food, and a bed is placed at his disposal. He is led into the museum, and the natural bases and the economy of his region is illustrated to him. He is shown the workshops, and, if necessary, his gun, his sled, or his clothing are repaired. He learns now to rear animals, to remove their hides and to prepare the hides, how to preserve fish and how to take care of sick reindeer. /112/ A doctor examines the hunter in a clinic and treats him as necessary. The new arrival takes a bath, attends the movie, and listens to the radio."

563 Apart from the Buryat, who have self-consciously taken their own fate into their hands, and the Chukchee and Koryak, who stand out above all others because of their important reindeer breeding and who can lead their own life apart from the rest of the world, all the other small peoples and remains of peoples are without significance for the development of the land, however interesting their ethnological remains are. Their existence in the broad wastes of their residential areas is limited to very primitive self-sufficiency or to the exchange of their products for other basic needs. Thus it was left to the Russians, not only to develop the land but also to bring it closer to the great economy and the world.

1/1 [cf. cat. 563, p. 115 -- Analyst]

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even where the N.K.V.D.-M.V.D. has no direct economic power it is the decisive political force, above all, in border areas like the Maritime Territory of the Soviet Far East.

There are indications, however, that the police ministry has encountered certain difficulties among the Far Eastern Russians during the war and post-war period. Conditions were certainly favourable to a re-emergence of that Far Eastern regionalism which Soviet power has tried so hard to eliminate. The people of Vladivostok, in particular, must have felt once more that the natural destiny of their city was that of a window into the world. They saw the many American lend-lease shipments arriving in their harbour and were bound to draw certain conclusions about the desirability of international trade and Soviet-American co-operation. More than people in other parts of the Soviet Union must the Russian inhabitants of the Pacific coastal areas have resented the policy of rigid isolationism which the Soviet Government has pursued particularly since 1947.

This frame of mind of the 'Far Easterners' makes it understandable that the very existence of an American consulate in Vladivostok was a matter of concern to the Soviet Government. The building of the consulate was put under constant supervision and for long periods it was floodlit at night. In 1948, the Soviet Government used a flimsy pretext to demand from the United States that they should withdraw their consular personnel from the Pacific port. The measure had little importance for the Americans as the activities of the four American consular officials were extremely limited, but it had a certain symbolic significance. The closing down of the consulate was a way of telling the people of Vladivostok that their hopes of their city becoming a link between Russia and the West were once more doomed. Some years later the charge was made that the consulate had been the centre of a spy-ring. This accusation was first put forward in the short story *In a Seaside Town* ('V Primorskom Gorode') which the popular Soviet illustrated *Ogonyok* published in 1950. In the daily press the 'plot' was mentioned for the first time on February 8th, 1953, when *Izvestiya* wrote : 'In 1947, the organs of the state security service liquidated a spy-nest organized by the assistant naval attaché at the American consulate general of Vladivostok, Richard'. *Izvestiya* produced no further details nor any evidence to support its disclosure which it simply quoted from a book *The Secret Weapon of the Doomed*. This latter work had come out under the auspices of the Komsomol organization. The absurdity of the Vladivostok spy story does not preclude the possibility that many Russian Far Easterners in the late 'forties' and early 'fifties' were persecuted for pro-Western sentiments just as others had been victimized for alleged pro-Japanese leanings in the late 'thirties.'

The particular sensitiveness which the Soviet authorities have shown

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patriarchal literature which has to be banned, and no cultural societies which have to be closed down because of bourgeois romanticism. Even so the small peoples of the Far East adhere, just as other peoples do, to their national traditions which are closely linked with those primitive religious beliefs usually summed up under the collective name of 'Shamanism'.

Shamanism is fundamentally the belief in good and bad spirits. The exact nature of the belief varies from one tribe to the other. The spirits may be deified animals, they may be ancestors, or they may simply be the forces of nature. Shamanism is not based on an elaborate ecclesiastical organization, but there are, nevertheless, mediators between spirits and ordinary human beings. These mediators are called Shamans. They enjoy a great deal of respect and prestige in the tribal society and this alone would have been sufficient reason to make them 'Enemy Number One' of the Soviet régime in all National Districts and National Areas inhabited by the Far Eastern aborigines.

The régime has charged the Shamans with many crimes, in particular with being dishonest and with consciously deceiving the people. This accusation has been contradicted by many Russian and foreign anthropologists who have had first hand experience of the Far Eastern Shamans. They have made the point that most Shamans sincerely believe in their superior power and are firmly convinced of their ability to cure the sick and to talk to spirits or to deceased relatives. It does not seem that Shamans charged more than moderate fees for their services if they demanded payment at all.[25] According to P. E. Petri, Professor of Ethnology at the Irkutsk University, it was completely erroneous to suggest that the majority of the Shamans were charlatans exploiting the credulity of the natives. For the Shaman, Petri wrote as late as 1928, his vocation constituted a heavy obligation which the spirits had imposed on him. The Shaman knew respite neither by day nor by night. He might at any time be called out and had then to travel dozens of miles in any weather. The Shaman was rarely at home and his household was therefore neglected. As a rule the Shamans were poor and only those living together with their brothers were better off.[26]

According to official Soviet evidence the Shamans engaged in 'mad resistance' to the extension of Soviet power to the north. They disseminated 'provocative rumours' aimed at inciting the tribesmen against the Russians. These charges against the Shamans are reflected in a number of novels which Soviet writers have written on life in the Far East. For example, Syomushkin's novel, *Alitet goes to the Hills*, records the collective resignation of the chairmen of the tribal Soviets in a part of Chukotka, as the result of the evil influences of one important Shaman. These chairmen gathered one day in the tent of the Russian secretary of the Communist Party and surrendered to him their letters of appoint-

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ment. They tried to get rid of these credentials as quickly as possible, because they were believed to be bearers of the evil spirit. The resigning chairmen suggested that the local Shamans should be appointed in their place, as they would be more successful in dealing with the spirits. The Party secretary refused to comply with this request, and, after a great deal of arguing, most of the chairmen agreed to retain their credentials, and to resume their jobs.[25] In the novel, *Where the Sukpai river flows*, by Kimonko, which deals with the life of the Udege people, the Shaman is both anti-Soviet and anti-Russian. He expresses his political philosophy in the following words:—'It is better to be doomed than to go to the Russians. The Russians will make soldiers out of us and destroy us to a man... The Russians and the Udege are different people. The man of the forest has laws of his own. One must abide by these laws.'[26]

The Shamans preserved their influence throughout the 'twenties' and early 'thirties'. They played an important part in the resistance movement against collectivization. In fact, the terms 'Shaman' and 'kulak' became interchangeable in the official Soviet vocabulary. But this is the usual simplification with which communist anti-religious propaganda operates. An official Soviet analysis referring to the social origin of 300 Shamans showed that between 50 and 60 of them came from poor families (bednota) and only 5 to 10 per cent were 'kulak elements'. More discriminating Soviet writers have stated therefore that Shamans whilst belonging to various social groups constituted 'a reactionary counter-revolutionary force taking sides with native kulaks and semi-feudal elements'.[27]

In addition to collectivization the Shamans obstructed practically every measure taken by the Government in the economic, cultural and sanitary fields. The target figures of the economic plans could not be fulfilled because the Shamans dissuaded the natives from fishing and hunting on certain days or from killing certain animals, for instance walrus. Soviet newspapers and journals were boycotted because the Shamans agitated against their dissemination. Also the new schools in the Far North and the 'kultbazy'* suffered from the sabotage of the Shamans. The latter persecuted and threatened the lives of Soviet teachers, particularly those of Russian nationality.[28] They hindered the re-education of the northern tribes to a more healthy and hygienic life, and intimidated people to such an extent that they did not dare even to go near a Soviet medical station.[29]

Although there is likely to be substance in most of these charges, they

* The 'kultbazy' or 'Cultural Stations' are political, cultural, and scientific research centres which the Soviet régime organized in the Far North. 'Cultural Stations' usually include a boarding school, a kindergarten, crèches, a hospital, a first-aid post, a veterinary station, a metereological station and even a museum. Most 'Cultural Stations' later developed into townships. Out of the fifteen 'Cultural Stations' three were founded in the Far East, one for the Koryaks, one for the Lamuts and the third for Chukchi and Eskimos.

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538 756 It would appear from Soviet evidence that Shamanism experienced a certain revival during the war. Shamans, it is alleged, cunningly used the temporary absence of young communist educated people from the tribal areas to regain some of their former influence. The novel of the well-known Soviet writer Azhaev, *Far from Moscow*, which refers to conditions in a Nanai village contains, for instance, the following passage: 'He (the Shaman) had lain low for a time but resumed his evil practices when war broke out. He saw his chance to profit from the war by a crafty and insolent device. Many of the Nanai boys of the village had been called to the colours. They wrote letters home from the front, and the Shaman made his "prophecies" by these letters. His clients were mostly old women anxious about the fate of their sons, and he fleeced and fooled them to the top of his bent.'[23]

Soviet novels about post-war conditions in the Far East try to convey the impression that the Shamans have ceased to be figures that are respected and feared. The Shamans of these novels are desperately isolated and universally despised. In one case the Shaman is even an enemy agent whom the Americans have sent from Alaska to provoke 'acts of diversion' among the natives of the Soviet Far East.

Some of the Soviet charges made against the Shamans coincide more or less with the criticism which a Western colonial administrator would direct against the African witch-doctors and juju-men. Western and Soviet administrators will, however, often differ as to the way in which the Shaman and the juju-man are to be fought. In West Africa, though not in East Africa, the fight against the juju-man is no more than a campaign of enlightenment in favour of a more hygienic way of life. In other words it is an aim in itself. The fight against the Shaman in the Soviet Far East and Far North is only a small part of a great struggle which is aimed at crushing every kind of political and religious opposition.

THE FIGHT AGAINST CHRISTIAN MISSIONS

797 779 661 In the Far East and Far North the régime fights religion on 'two fronts'. If the liquidation of Shamanism is one aim of communist anti-religious policy, the total prevention of Christian missionary activities is another.

Christianity has had a certain influence on the small nationalities of the Far East. Missionaries preaching the faith in a God who loves and helps man, have tried with some success to oust from the hearts of the natives that deep-rooted fear which is accompanied by belief in evil spirits. But the work of the missionaries was far from being finished when the Soviet authorities interrupted it. As it often happens in Africa, the superstitions of paganism survived even where the Church made formal converts. Those Lamuts of Kamchatka, for instance, who accepted the

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208 773 shamans' fighting and exterminating the 'evil spirits'. Lenin and Stalin appear in these 'folk-tales' as legendary heroes, as eagles liberating the people from the 'bad black kite' (a Tunguz folk-tale), and, in particular, as something approaching 'sun-gods'.

208 773 538 It is understandable that the idea of the sun must have a powerful appeal for peoples living in Arctic and sub-Arctic regions. Everything associated with the sun is good, wonderful and divine. The Soviet régime has made ample use of this. The Soviet literary journal *Zvezda* rightly said that several volumes could be compiled from all the legends, stories, tales and songs in which Lenin and Stalin are depicted as heroes who gave to the people of the North the inextinguishable sun.[34] Typical of this 'sun literature' produced for the Far Eastern aborigines is the Nanai folk-tale – *Sun of the People*; – 'and there came a time when a hero (who, although living far away from the Nanai people, saw and knew everything) took the sun into his hands, and turned it in such a way that its warmest rays shone where it was dark, and where down-trodden peoples were suffering. And they then knew well-being, warmth and happiness. The name of the hero was Lenin. When a great disaster befell the earth – when Lenin died – bad people were pleased. They thought that the sun would stop shedding its light on the people, but their glee was shorter than the space of a minute, because the people's sun was guarded by another hero. He is the nearest friend and companion of Lenin, and his name is Stalin. Nobody can equal the strength of that hero. His eyes see everything that goes on on earth. His ears hear every-thing that people say. His brain knows all that people think. His heart contains the happiness and the woe of all peoples. The depth of his thought is as deep as the ocean. His voice is heard by all that inhabit the earth. Such is the greatest of the very greatest in the whole world. And he took the sun out of Lenin's hands, and lifted it very high. And since then happiness shines on earth, because it is impossible for the sun not to shine.'[35]

The same motif as in the Nanai tale *The Sun of the People* is to be found, with slight variations, in the poems and tales produced for the benefit of the other small ethnic groups of the Far East and Far North.

Something could be said even in favour of the Soviet 'sun' propaganda in as far as it banned the fear of 'evil spirits'. Unfortunately, the Soviet régime has replaced the fear of the spirits by the fear of its own power and the institutions and bogies which it has created. One of them is the wicked foreigner, always ready to attack the natives with the most ghastly and devastating weapons.

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known Soviet writer Pavlenko has referred to this problem in one of his novels in the following words, 'From the polar tundra down to Korea everybody dreams of women. Nowhere else do people get married as quickly as there. Widows do not exist in the Far East. Only the oldest women overcome by senility remain single'. There is a lot of truth in what Pavlenko said. The proportion of women in the population of the Far East diminishes the further one goes east. The 1926 census showed that for every 1,000 men there were 962 women in the area just east of Lake Baikal, 918 in the Amur region, 704 in the Pacific coastal region and 689 on Sakhalin island. This is an abnormal situation, though characteristic of the pioneer stage of colonization activities all over the world.

To make the balance between the two sexes more even, a movement was created designed to bring young girls to the F.E.T. It was associated with the name of an ordinary Soviet citizen, a young woman of twenty-two years of age, Valentina Khetagurova-Zarubina. Khetagurova was the wife of a major serving with the 'Special Far Eastern Army'. Her claim to fame was a letter which she addressed to the girls of the Soviet Union. The letter was published on February 5th, 1937, and is an extremely interesting document.[22] Official inspiration had certainly a lot to do with it, but the letter nevertheless had a personal touch, and in some passages the Russian woman triumphed over the communist official. The needs of the Far East, Khetagurova said, were great. 'We need fitters and turners, teachers and draftswomen, typists and accountants – all to the same degree'. In the event of a war Khetagurova promised different kinds of jobs. Women would then be employed as nurses, radio operators and even as machine gunners. She appealed to the personal pride of would-be migrants to the Far East; 'We want only bold, determined people, not afraid of difficulties'. She described the Far East as an exotic dreamland 'where still a short time ago there were only deer, tigers and lions' and where 'wonderful work, wonderful people and a wonderful future' would meet the girls.

More important than all this was the assurance which Khetagurova gave, not expressly, but by implication, namely, that every girl would find a husband in the Far East and possibly even one holding commissioned rank in the army. She told the girls of Soviet Russia her own personal success story: 'In the autumn I made the acquaintance of Major Khetagurov. My life became fuller and brighter when I became married to him. . . .' The Russian girls could not be told more clearly why they should follow the example of Valentina Khetagurova.

The Khetagurova letter had considerable success. By the end of 1937 as many as 70,000 Soviet girls had registered with the authorities as volunteers for the Far East, and many actually went there. They were called 'Khetagurovki' – Khetagurova girls.

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[For information on the Ukrainians in Siberia, 1917-1922, see: 8: Fedenko, RD1 Ukraine, cat. 116, pp. 62. -- Analyst]

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victions. Not only was the colonization of Alaska itself 'progressive' and 'democratic', the management of the Russian-American Company also was. One of its chief executives, K. F. Ryleev, was executed for his part in the December rising of 1825, and there were other prominent 'Decembrists' among the officials of the Company.[33]

Soviet propaganda has tried to show that Baranov and Kuskov conducted a progressive policy towards the natives of North America, totally different from the Anglo-Saxon or Spanish policy towards Red Indians. This is untrue and has been contradicted by Russian sources themselves. A Russian naval officer, who visited Alaska at the time of Russian occupation, has given the following eloquent description of Baranov's policy towards Eskimos and Aleuts: 'Woe to those who resisted him. He destroyed them mercilessly, deported them to uninhabited islands, deprived them of all means of contact with each other, and mixed people of various tribes so that there could be no malicious conspiracy against the Russians. He was feared by the savages, they considered him as the scourge of heaven. Since they had no chance to revolt they were forced to become his slaves and to forget all about their previous freedom'.[34] As a matter of fact, the Aleuts revolted against Russian rule, as the Russian historian, Shashkov, pointed out in his book on the Russian-American Company, and these revolts led to the extermination of a large part of 'this restless people'. How many Aleuts have perished altogether in the years of Russian rule it is impossible to say. According to the official data of the Russian-American Company there were 8,405 Aleuts in Alaska in 1824, but only 4,363 were recorded in 1859. It would be true to say, therefore, that Russian colonization of Alaska was, from the humanitarian point of view, by no means better than, say, British colonization of Australia in its initial stage.

Nevertheless, Russian policy towards the native peoples of Russian America did have its brighter aspects. Those responsible for it, however, were not Shelikhov, Baranov and the other newly discovered national heroes of Soviet Russia, but people whom the Soviet régime is not very keen on publicizing, the Christian missionaries. It was they who founded the first schools in Alaska, educated a fair number of natives, and even translated religious books into the Aleut language. The most important Russian churchman working in Alaska was Ivan Veniaminov (1797–1879). He was the author of a grammar of the Aleutian language which was published in St. Petersburg in 1846. The 'apostle of Alaska', as the Russian historian, Zernov, calls him, became later, under the name of Innokentii, Metropolitan of Moscow.[35]

The scope of these Russian church activities was, however, very small and one cannot say that the end of Russian rule in Alaska, in 1867, meant in any way a major loss to the native peoples; but of course it was, historically speaking, a great loss for the Russian State. Soviet Russia was

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III

THE ABORIGINES OF THE SOVIET FAR EAST

101 There are about 60,000 aborigines in the Soviet Far East (excluding Yakutia and Buryat-Mongolia) belonging to over a dozen different nationalities. The ethnographers divide them into two main groups. The first group, the Paleoasiats, includes the Chukchi, the Koryaks, the Asiatic Eskimos, the Aleuts, Ainu, Nivkhi and Kamchadals. Of the second, the Manchu-Tunguz peoples, the most important are the Tunguz proper, or Evenki, the coastal Tunguz, or Eveni, the Nanai and the Udege. Politically and sociologically all these nationalities must be considered as one single entity. The Soviet régime has treated 563 them quite differently from the Korean, Chinese and Japanese minorities. As the small groups of aborigines are unable to handicap Russian colonization, the Communist Party has patronised them, and Soviet propaganda has always devoted a great deal of publicity to them, even at a time when there was complete silence about the Koreans and Chinese of the Soviet Far East. This does not necessarily mean that Soviet Russia has handled the problems of the Far Eastern aborigines successfully.

TWO VIEWS ON NATIVE POLICY

563 In the first years following the October Revolution the most authoritative 177 Russian anthropologists felt that the time had come to take special 656 measures to protect the Far Eastern and Far Northern natives from the pernicious influences of European civilization. Demands to that effect were voiced, in the winter of 1921–22, in the organ of the People's Commissariat for Nationalities, *Zhizn Natsionalnostei*. The most remarkable contribution to the problem of the small nationalities came from Professor Vladimir Germanovich Bogoraz-Tan (1865–1936), who had a profound knowledge of the problems of the tribes of North-Eastern Siberia, particularly of the Chukchi. Professor Bogoraz suggested that the Soviet Government should draw the lessons from certain experiments carried out in the native territories of Canada, the United States, Brazil and Argentina. It seemed vital to him that the mode of

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563 177 656 life and the living conditions of the primitive tribes should be protected against every influence on the part of their more civilized Russian neighbours, or even of other stronger non-Russian peoples. Russians, Bogoraz said, should not be allowed to make any use whatever of the territories inhabited by the 'primitive tribes'. They should not even be permitted to enter them. Exceptions were to be made only for three categories of people, first anthropologists and linguists, secondly certain persons who would render practical services to the territories, such as doctors and technicians, and thirdly the ideologists of the new régime. Professor Bogoraz warned against making any economic experiments with the natives. He said that such experiments would not enhance the welfare of the Far Northern and Far Eastern tribes, but would, in fact, undermine their existence.[1]

To carry out a systematic policy of protection of the natives Professor Bogoraz demanded the foundation of a special committee to be attached to the People's Commissariat of Nationalities. Such a committee was in fact founded with the prominent participation of Professor Bogoraz himself. It was the 'Committee of the North'. It had a huge bureaucratic apparatus consisting of five departments. The first dealt with administrative and legal matters, the second with economic and financial affairs, the third was concerned with scientific research, the fourth with health and the fifth with education. The Committee of the North had a Far Eastern Bureau in Khabarovsk which dealt with the small Far Eastern nationalities.

From the very beginning two tendencies made themselves felt within the Committee. People like Bogoraz-Tan viewed its work primarily from a philanthropic point of view. They thought that the Committee was nothing more than an organization to assist the Far Northern and Far Eastern peoples to recover from the blows which contact with European civilization had inflicted on them. Die-hard Bolsheviks, on the other hand, had a different approach. They considered the Committee to be an instrument of economic exploitation of the Far Northern territories, and for fostering class struggle among the tribes.

563 635 Their view did not prevail at once. In the first five years of its existence, between 1924 and 1929, the Committee did not interfere much with the tribal system of the Far North and Far East. The administrative pattern enforced in other parts of the Soviet Union was not extended to the small native peoples. Those living in the Far East were given such forms of local administration as were acceptable and comprehensible to them. Each tribe had a Tribal General Assembly ('Obshchee Rodovoe Sobranie') which elected a Tribal Executive Committee ('Rodovoy Ispolnitelny Komitet'). Several related tribes sent delegates to a Tribal District Congress ('Rayonny Rodovoy Sezd') which elected a Tribal District Executive Committee ('Rayonny Rodovoy Ispolnitelny

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

Komitet'). The Tribal Committees of the lower order were later described as 'Native Soviets' ('Tuzsovety') of which there were 400 all over the Far East and Far North. The most remarkable fact about this tribal administration was that participation in tribal and native Soviets was not limited by class criteria.

This idyllic state of affairs could not last long. From one plenary meeting of the Committee of the North to the next the intransigence of its more radically minded members increased. In 1929 the Committee firmly decided to apply the principles of class struggle to the Far North, and from 1930 onwards, the tribal administration was abandoned. Regular organs of local government ranging from village Soviets to 'National Areas' ('Okrugs') were created instead. This meant in fact the end of the 'native reserves' which the Russian anthropologists had advocated in the early years of the Soviet régime. Under the new set-up Russian and other European Party and State officials were able to increase their influence in the running of native affairs. The natives were linked politically and administratively as closely as possible with the metropolitan territories of the U.S.S.R. In 1935, the Committee of the North itself was disbanded.

By the time of its abolition the Committee had lost a great deal of its previous importance. Many of its original duties had been taken over either by the Chief Administration of the Northern Sea Route, 'Glavsevmorput', or by local government organs. The Chief Administration of the Northern Sea Route, which had at its disposal a large staff of experts on nationalities problems, was originally launched as a body with extremely wide powers. Among other things, it was supposed to look after the well-being of the Far Northern tribes, direct cultural work among them, organize health services and help to promote their 'sovietization'. In the autumn of 1938 the Soviet Government decided that 'Glavsevmorput' could not carry out these tasks properly. A decree of the Council of People's Commissars stipulated that it was to hand over to the territorial administrations all enterprises and institutions which were not directly connected with the development of the Northern Sea Route.[2]

COMMUNIST ADMINISTRATORS

The abolition of the Committee of the North in 1935, and the curtailing of the powers of the 'Glavsevmorput' in 1938, increased the responsibilities of the administrative authorities and party organizations of Khabarovsk. It cannot be said that the latter have shown great enthusiasm for work in the National Areas and National Districts of the small nationalities. In fact, up to 1939 most of the officials posted to distant parts of the Far Eastern (later Khabarovsk) Territory went

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

the Far Eastern aborigines are sent to the Pedagogical Institute of Khabarovsk, where there is a department for the Far Northern nationalities, and a few are even admitted to the Herzen Pedagogical Institute in Leningrad. Courses at the Far Northern Department of that Institute last three years, and the curriculum includes 'Foundations of Marxism-Leninism; the great works of Stalin on questions of linguistics; the history of Russian pre-revolutionary and Soviet literature; folklore, and many other subjects'.[21] In addition every student has lessons in methods of teaching, in the grammar of his own national language, and in the history and ethnography of the peoples of the North.

Native students are also instilled with a feeling of hatred against the non-communist world. The results of this indoctrination can be gauged from the answers which a Yakut student gave, according to *Pravda*, at his final examinations at the Leningrad Pedagogical Institute. 'The Yakut student, E. Sysosyatin, talked at the examination of the situation of the Eskimos, Aleutians and Red Indians in America. He mentioned many facts which unmasked the American imperialists, and their criminal policy directed towards the total extermination of these peoples. To the horrors of misery, starvation, inhumane privations and persecutions to which these nationalities are subject in America, even greater atrocities have been added during the past few years. As has become known, the American imperialists, preparing bacteriological warfare, tried out the effects of the deadly microbes on the Eskimos. As a result of these cannibalistic experiments many Eskimos in America died of bubonic plague.'[22]

Soviet dictatorship indoctrinates all citizens of the U.S.S.R., whether Russians or Uzbeks, Ukrainians or Georgians, Latvians or Chukchi. It gives to all of them a completely distorted picture of the nations outside the communist sphere. This campaign of hatred and distortions, while morally wrong in every single case, is particularly contemptible if directed towards the youth of primitive peoples. By trying to transform young native intellectuals into agitators of the 'cold war', the Soviet régime destroys to a considerable extent the good which it is doing by the spread of culture and knowledge.

COMMUNISTS AND SHAMANS

The young natives trained in Nikolayevsk-on-Amur, Khabarovsk and Leningrad are to help the Russian administrators in the fight against 'local nationalism' in all tribal areas of the Soviet Far East. Naturally, in the territories of the small Far Eastern peoples the Soviet régime does not fight 'local nationalism' in the same way as it does in areas where there are more developed nationalities. There are no parties or political groups which the communists have to suppress; there is no feudal-

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

patriarchal literature which has to be banned, and no cultural societies which have to be closed down because of bourgeois romanticism. Even so the small peoples of the Far East adhere, just as other peoples do, to their national traditions which are closely linked with those primitive religious beliefs usually summed up under the collective name of 'Shamanism'.

Shamanism is fundamentally the belief in good and bad spirits. The exact nature of the belief varies from one tribe to the other. The spirits may be deified animals, they may be ancestors, or they may simply be the forces of nature. Shamanism is not based on an elaborate ecclesiastical organization, but there are, nevertheless, mediators between spirits and ordinary human beings. These mediators are called Shamans. They enjoy a great deal of respect and prestige in the tribal society and this alone would have been sufficient reason to make them 'Enemy Number One' of the Soviet régime in all National Districts and National Areas inhabited by the Far Eastern aborigines.

The régime has charged the Shamans with many crimes, in particular with being dishonest and with consciously deceiving the people. This accusation has been contradicted by many Russian and foreign anthropologists who have had first hand experience of the Far Eastern Shamans. They have made the point that most Shamans sincerely believe in their superior power and are firmly convinced of their ability to cure the sick and to talk to spirits or to deceased relatives. It does not seem that Shamans charged more than moderate fees for their services if they demanded payment at all.[23] According to P. E. Petri, Professor of Ethnology at the Irkutsk University, it was completely erroneous to suggest that the majority of the Shamans were charlatans exploiting the credulity of the natives. For the Shaman, Petri wrote as late as 1928, his vocation constituted a heavy obligation which the spirits had imposed on him. The Shaman knew respite neither by day nor by night. He might at any time be called out and had then to travel dozens of miles in any weather. The Shaman was rarely at home and his household was therefore neglected. As a rule the Shamans were poor and only those living together with their brothers were better off.[24]

According to official Soviet evidence the Shamans engaged in 'mad resistance' to the extension of Soviet power to the north. They disseminated 'provocative rumours' aimed at inciting the tribesmen against the Russians. These charges against the Shamans are reflected in a number of novels which Soviet writers have written on life in the Far East. For example, Syomushkin's novel, *Alitet goes to the Hills*, records the collective resignation of the chairmen of the tribal Soviets in a part of Chukotka, as the result of the evil influences of one important Shaman. These chairmen gathered one day in the tent of the Russian secretary of the Communist Party and surrendered to him their letters of appoint-

101 The Buryat occupy the region west and east of Lake Baykal.
563 Their entire number in 1939 was around 280,000. They are divided into the Irkutsk and the Transbaykal Buryat. The former, numbering approximately 100,000, live in the Irkutsk region and enjoy cultural autonomy in the Ust'-Orda Krai. The Transbaykal Buryat are united in the Buryat-Mongol ASSR. Nevertheless, they constitute only 43.8 percent of the population of this ASSR (1941), and the Russians are in the majority. Buryat live in large numbers also in the Chita region, especially in the Aginsk /Aga/ Steppe south of Chita, where they have their own administration in a national district. The Buryat are regarded as a branch of the Mongols and are contrasted with the Khalkha
563 Mongols in Outer Mongolia. As history shows, a part of this people early became sedentary, especially west of Lake Baykal. In the steppes of Transbaykal, however, the major part of the people remained typical Mongolian nomads until the very recent past. Gmelin, who traveled the land in the eighteenth century, reports that numerous Buryat had herds of thousands of sheep and hundreds of reindeer and horses. Georgi, who spent time in Transbaykal in the same century, writes that individual Daur Buryat own up to 1,000 camel, 4,000 horses, 2,000 to 3,000 reindeer, 8,000 sheep, and hundreds of goats. Even if these numbers may be exaggerated, they show nevertheless that animal breeding was the basis of the economic life of the Buryat. After the invasion of the Russians they were able to adjust in advantageous fashion to the changed situation, and a large part of the people went over to agriculture. There remained for them simply no other way, since the Russian settlers took the best pasture lands from them and transformed them into tilled land. Pressed into unfavorable areas, they proceeded with remarkable energy and without European guidance to create their own tilled land through artificial irrigation, especially in the river region of the Selenga and in the Barguzin Valley. However, in the southern steppes of Transbaykal they have /105/ retained their original occupation, cattle raising, in which they have made extraordinary accomplishments. The Buryat Republic belongs today
563 to the most important cattle surplus areas in the Soviet Union. Many
177 interesting features of their own folk life have been lost through the introduction of kolkhoz economy and modern cattle-raising methods. Thus the felt yurts occupied of old have simply disappeared and have been replaced by small, practical wooden houses. However, there are still regions in Transbaykal where the Buryat continue their nomadic life unhindered, even though everywhere the influence of Russiandom grows stronger and stronger. At most the Irkutsk Buryat and the

Lamut, Goldi

Transbaykal Buryat, who have gone over to agriculture and are living among the Russians, are under this influence. Nevertheless their intelligence and their self-consciousness, qualities which have always been praised in them, create for them again and again a position of their own, and expression is given to this in the autonomous soviet republic and in the two national districts.

The Tungus or Evenki, as they are now named in Soviet literature, are to be encountered in all of east Siberia. Their entire number is estimated at 75,000. Of these the real Tungus, with about 30,000 people, live in an extended national district /okrug?/ west of the Yakut ASSR on the right side of the Yenisey. The main part of the remaining Tungus, who are divided into numerous small and very small splinter peoples, live in the far eastern area. To them belong the Lamut, Goldi, Olcha, Orok, Orochi, Orochon, and other smaller tribes. The Lamut, whose name is taken from the Tungus word "lamu," "the sea," live widely scattered over the entire Okhotsk coast, the upper basin of the Anadyr', and are also represented on Kamchatka. Their entire number undoubtedly cannot exceed 3,000. Only a small part of them occupy themselves with reindeer breeding. Most of them are sendentary and have fixed settlements at river mouths on the sea, where they apply themselves to catching fish and in addition are also active as hunters and dog breeders. The Lamut can be designated as sea or coastal Tungus. Their ethnology has been studied very little. Much better known are the Goldi. They live in the region of the confluence of the Amur and Ussuri and are also scattered in the valley of the Ussuri and in Sikhote-Alin'. They are settled most thickly in the valley of the Amur below Khabarovsk. Among the Goldi the Mongolian racial marks are very strongly apparent: jaw and cheek bones stand out, the nose is broad and low, hair is black and straight. They used to make their clothing in part from fishskin, and it is for this reason that they were named "Yupi-tadsy," i.e., barbarians in fish clothing, by the Chinese. At present this national costume of the Goldi has been completely displaced by clothing of Russian or Chinese origin. The Goldi occupy themselves exclusively with fishing, hunting, dog breeding, and trapping. A supply of fish is dried in the air for winter and serves then as nourishment for man and dog. /106/ Usually the fish are cooked, but in the summer they also eat them raw. They regard as delicacies raw marrow and the liver of the isiubr stag. The wagon is unknown to the Goldi as a means of transportation. In summer they use a birch bark or board boat, and in the winter dog sleds.

Goldi, Olcha, Orochi

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563 in the winter dog sleds. The position of the women is difficult. Polygamy is permitted. Bride purchase remains today. The Goldi [342] live in small settlements of two to twenty houses, which are built out of mud like Chinese fang-tze /Fansen/. Many of them are half sunk in the earth. In the summer, however, the Goldi gladly leaves his fixed house and moves into his original domed tent, which is covered with birchbark or bast mats. In more recent times many Goldi have taken up the cultivation of vegetables, and they also breed pigs and chickens. The Samaghir, who live on the Gorin, a left tributary of the lower Amur, can be named as relatives of the Goldi. Their culture corresponds to that of the Goldi, but many expressions in their language indicate that they formerly were reindeer breeders. At present they devote themselves exclusively to fishing and hunting. Further downstream live the Olcha, who have also spread to the coast of the Tatar Strait and to Sakhalin. On Sakhalin they call themselves the Orok. The Olcha are also hunters, fishermen, and dog breeders. However, in contrast to the semi-nomadic Goldi, they are sedentary, and they all pursue agriculture in slight measure. Various signs indicate that they also were once reindeer breeders as their relatives, the Orok on Sakhalin, still are today. The total number of Olcha and Orok can scarcely exceed 2,000. More numerous--around 2,500--are the Orochi, who are also often called Udekhe (after the river Udekhe). Split up into numerous small groups, they live in the valleys of the middle and southern Sikhote-Alin' and also on the side toward the sea and the Ussuri. Many of [179] them, especially in the south, are under Chinese influence and speak, reside, and live in a Chinese fashion. However, in the heart of Sikhote-Alin' they have remained rather pure and still live as true forest people, as Arseniev described them, and they show pronounced [141] Tungus traits. The men on the average are 1.60 meters tall, and the women 1.45 meters. Their small hands and feet are striking. [301] Like the Goldi they once wore ear and nose rings, and this custom still exists among the Orochi-Udekhe, although only among the [342] women. They still live in pointed tents in contrast to the domed tents of the Goldi, in which the tent poles are bent together to form a dome and which recall, in their form, the yurts of the Mongols. On long trips, however, the Orochi did not take his tent along, since the tent was too burdensome for him; instead, while he was on his way, he built a simple protective tent out of twigs. The pure Orochi is only a hunter and fisherman. The social order of this people is

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

101 563 [621] [583] [776] [763] [769]

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

[197] [281] 101 563 342

Gilyak, chukchee

101 earth dwellings must have been the original winter dwelling of the
●563 Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin
[342] live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is
[171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled,
[493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their
[262] chest but with their neck. The main food of the Gilyak is fish dried in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too.
[141] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro-
[583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life,
[776] worship of the bear plays a large role; this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads,
[342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

Chukchee, Koryak

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material life of the Maritime Chukchee, who number approximately 3,000, is completely the same as that of the Eskimo. They use the same leather boat, the kayak, and the metal harpoon with a float made of an inflated sealskin, and many other things. On the other hand the Reindeer Chuckchee are completely nomadic and have shown themselves to be extraordinarily good reindeer breeders. They number only about 9,000, but they have around half a million reindeer. But still reindeer breeding does not appear to have been their original sphere, for many idioms as well as marks of their dwelling indicate that they also once lived on the banks of the sea; reindeer breeding was perhaps taken over later from the neighboring Tungus. Thus, /109/ as Bogoras (37) reports, the interior of the sleeping section of

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37. V. Bogoras. The Chukchee (New York, 1904/1908).

the tent is designated as the "skin of the white bear" by the Reindeer Chukchee, even though at present not bear skin but rather only reindeer skin serves as walls and bed covering both for the Reindeer and the Maritime Chukchee. Peculiar is the belief of the Chukchee that a life after death is attained only by a person who has had a violent death, and it was not long ago that, out of a kind of sympathy, they killed their own people who were weakened by age or unfit for life; this custom is also reported among the North American Eskimo. The Chukchee, Koryak, and Kamchadal generally show many traits related to those of the Indians of northwest America, and it is for this reason that Bogoras classifies as "Americanoid" the entire group of Paleoasiatics, including the Gilyak mentioned earlier.[1] Myths and sagas coincide both in content and in form, often down to details, with those of the northwest American Indians. Accordingly the assumption should not be dismissed that the Chukchee, Koryak, and Kamchadal once were immediate neighbors of the Indians, and that only at a later time did the Eskimo shove in between them.

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The Koryak, now also designated as Nymylan, occupy the northern half of Kamchatka and the adjacent continent. Their number is estimated at around 10,000. Like the Chukchee they are divided in half into the Maritime Koryak and the Reindeer Koryak. The former are sedentary and above all fishermen, and their life approaches in significant measure that of the Eskimo. They also hunt sea animals such as the walrus, the seal, and occasionally also the whale. They are already extensively absorbed into the Russian culture and live

[1] [cf. cat. 116, pp. 118-119 -- Analyst]

Koryak, Kamchadal

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together in villages in crudely constructed wooden houses. The leather boats, which they still use for hunting and fishing, are disappearing more and more. The Reindeer Koryak have also already grown far from their original culture. They are primarily reindeer breeders and own large herds. They live nomadic life wandering between the valley regions protected from the wind in the winter and the gnat-free mountainous tundra in the summer. The square winter hut, which is built from wood and is half sunk in the earth, is built in imitation of the Russian house. They recall the old pit dwelling of Europe. Only in the summer do they use their round, transportable tent, which in its original form consisted of a framework of poles covered with reindeer skins. Today, however, it is often only a type of board shanty, since their wanderings are mostly limited to short stretches. The winter huts as a rule lie on rivers and are permanent constructions. Older people often remain in the winter huts even in the summer, and accordingly the Koryak must be designated as semi-nomadic. Physically the Koryak are medium to short in height with straight black hair, slight growth of hair on the face, and brown-bronze skin color. They make their clothes out of reindeer, wolf and dog skins, and they make lighter clothing for the summer from seal skin. In this /110/ they show a color-happy feeling for art and decorate their clothing with strips of hide of different colors or with leather which they form into various ornaments.

[342] [142] [281]

The Kamchadal or Itelmen occupy the southern part of Kamchatka Peninsula, primarily the southern part of the western coast and the Kamchatka valley. Their number earlier must have been much greater, for old reports speak of tens of thousands. Today their number can scarcely be determined since a very large part of the people have been completely Russianized. Many have almost forgotten their own language. It is interesting that numerous Russians in the first wave of colonizers are completely absorbed in the Kamchadal and cannot be distinguished from them at all in mode of living and customs. In some villages on the western coast between Zedanka and Zepochnoye there are still pure Kamchadal, who number around 800 (1930). Often these people alone are designated as Itelmen and contrasted to the Kamchadal. They have abandoned their original earth hut, which can still be encountered in the interior as a base for hunters, and they live in clumsy wooden houses of the Russian type. Fishing is their principal occupation. In the winter, however, they move into the mountains to hunt fur animals. Their houses stand unordered in loose groups on the rivers. When the

[177] [342]

when the Kamchadal/Eskimo 101 563 [226]

salmon run begins, festivals of joy and work begin for young and old. As a rule the fish are caught in fixed traps, which are drawn across the river so that the way is barred for the fish as they go upstream. The fish press together in great masses in front of this weir and are caught with simple scoop nets. The common drying place is never [251] empty, for it is important to preserve as many fish as possible for the entire year by drying them. In addition, an older method is still used occasionally: the fish are buried in the earth and there becomes sour; hence there is a kind of fish silo from which fish can be fetched during the winter as needed. A penetrating fish smell fills the entire settlement, and there is no end to eating during the catching season. It is not too much to say that the Kamchadal live on fish and tea. The [231] dog, the most important domestic animal and beast of burden for all sedentary native northeast Siberians, is also fed on fish. The number of dogs is considered as the mark of wealth. There are families which have 200 to 300 dogs, which are housed in a pen near the house and fill the entire region with their hoarse barking. It is inadvisable for strangers to go near these half-wild animals. At present the horse is spreading more and more and is beginning to displace the dog as the beast of burden. Through the state organization of fishing and the introduction of modern methods, large sections of the Koryak have also been incorporated and placed in a new order. Many have also turned to agriculture and cattle-breeding.

/111/ The Asiatic Eskimo live on the banks of Bering Strait and occupy 17 villages with approximately 1,600 people. They ex- [174] tended much further formerly; and it is for this reason that there are Eskimo names for places now occupied by Maritime Chukchee. The displacement of the Eskimo must have been done simply by force, for the sagas of the Chukchee are filled with reports of hard battles with the Eskimo, battles which, however, ended long before the entrance of the Russians. Today the two peoples live harmoniously beside one another in separate villages. The Asiatic Eskimo differ from their relatives in Alaska in their speech but culturally they form a unit with them. With their life completely directed toward the sea, they seldom go into the interior of the land; for such occasions they use dog sleds. On the Commander Islands live approximately 500 Aleut, who, according to their language, are related to the Eskimo. They, too, live completely from catching sea animals, since the islands offer them only birds.

As has already been said, the Buryat Mongols have a cultural

563 As has already been said, the Buryat Mongols have a cultural
517 administration of their own in the Autonomous Soviet Republic named after them and in the national districts already listed. Using the Russian alphabet, they have created their own writing. Elementary schools have permeated the entire land, and there are also higher schools in the cities; hence, according to Soviet claims, illiteracy has been almost completely eliminated. Newspapers appear in the Buryat language, and in Ulan-Ude even a Buryat-Mongolian theater has been brought to life. Numerous cultural institutions provide political enlightenment. Like all autonomous regions in the USSR, the Buryat Mongol ASSR has, as it is called in Soviet literature, a culture which is national in form and Socialist in content. This goal is also strived for with the other old peoples. In the national districts such as the Chukchee (capital Anadyr') and the Koryak (capital Palma) have, so-called "Kultbazen" (culture bases) play an important role in this connection. Since continuous measures for influence and
[658] education are not possible with areas so large and populations so widely scattered over these areas, there have been created for this purpose culture bases which are visited on occasion by the natives. How life in such a culture center can be envisaged is described by Nicholas Mikhailov (Land of the Soviets, New York 1939, p. 187): "When a hunter or reindeer breeder enters a culture base, he is provided with food, and a bed is placed at his disposal. He is led into the museum, and the natural bases and the economy of his region is illustrated to him. He is shown the workshops, and, if necessary, his gun, his sled, or his clothing are repaired. He learns now to rear animals, to remove their hides and to prepare the hides, how to preserve fish and how to take care of sick reindeer. /112/ A doctor examines the hunter in a clinic and treats him as necessary. The new arrival takes a bath, attends the movie, and listens to the radio."

563 Apart from the Buryat, who have self-consciously taken their own fate into their hands, and the Chukchee and Koryak, who stand out above all others because of their important reindeer breeding and who can lead their own life apart from the rest of the world, all the other small peoples and remains of peoples are without significance for the development of the land, however interesting their ethnological remains are. Their existence in the broad wastes of their residential areas is limited to very primitive self-sufficiency or to the exchange of their products for other basic needs. Thus it was left to the Russians, not only to develop the land but also to bring it closer to the great economy and the world.

1/1 [cf. cat. 563, p. 115 -- Analyst]

The Russians

563 167 361 The original Cossack settlements formed the basis of the Russian colonization. According to the treaties of Aigun and Peking, the Amur and Ussuri Cossack formations were put next to the Transbaykal Cossack army assigned to the Argun. In the period from 1858 to 1862, 23 such Cossack settlements with 5,000 people came into being on the Ussuri and 75 on the Amur. These Cossack outposts consisted of loosely laid-out villages and also of individual settlements, which were organized in a military fashion for the protection of the border, but which in addition had to maintain themselves economically. For this there was distributed to them large landed property which extended along the Argun, the Amur, the Ussuri and the Suifun along the Chinese border. Successive settlers attached themselves to these strips of settlements, made them more densely populated or extended them. Thus there came into existence, on the one hand, the remarkably long strips of settlements along the border rivers, settlements which extended into the hinterland only where favorable conditions allowed new land to be developed without much work; and, on the other hand, there came into existence among the settlers themselves a certain organization which can be observed in typical characteristics even in recent times. Near the borders on the better land near the rivers sit the old settlers with large pieces of property; mostly these old settlers are descendants of the Cossacks who, after years of fighting, deprivations, and also successes, became enterprising culture pioneers who did not shy from risks, and who represent a powerful, hard, self-conscious race of people. On the other hand, to the side in the interior, mostly on land of slight value, live the the new settlers who came later; they have preserved all the typical characteristics of the East European Russian with his strengths and weaknesses.

563 167 162 Despite various laws favoring emigration of Russian citizens--the first law in this connection was enacted in 1861--/113/ and despite many facilities and much fostering, colonization proceeded only very slowly in the first decades. All recruiting measures had only slight success. The difficult, long land route through Siberia and also the long sea trip frightened many off. Only with the building of the Transsiberian Railway did a stronger stream of immigration begin, and the population east of Lake Baykal was already 1,622,000 by 1911; of these 1,225,000 were Russians and around 20,000 were other Europeans. Of the remaining population of 379,000, the greater part were Buryat, who numbered 205,000, and the remainder was divided between

563 167 162 Chinese, Koreans, and numerous small indigenous peoples. The disorders of the revolution after World War I brought many Russians to the Far East. Planned measures for colonization instituted by the Soviet government contributed to this, and by 1926 the population east of Lake Baykal reached around 2.3 million and had risen to 4,040,000 persons by the time of the last census on January 17, 1939. The increase consisted principally of Russians. By 1939 in the Buryat Mongolian ASSR the Russians had an absolute majority with 52.7 percent (in 1941, 57.2 percent) of the entire population of 542,000. In the Chita region, with a total population of 1,159,500, the number of Buryat and other natives can be estimated at most at 50,000, and in the Khabarovsk and coastal region, with a total of 2,338,100 inhabitants, the percentage of indigenous peoples is only 3 percent.

The main part of the Russians are occupied with agriculture and cattle breeding. In addition, fishing and hunting serve as an additional occupation. The professional Russian hunter, the "Promyshlennik," a real runner type, still hasn't died out. The number working in industry has increased sharply in recent years.

563 361 342 Even here the Russian peasant continues the life he used to lead at home, and he troubles himself here no less than he did there. Accordingly one can often recognize in the type of settlement where the settler came from, even if it was decades and more ago. The Great Russians, especially those from the northern regions, prefer residences on rivers and in wooded areas. Their houses are built in the same block house style of the "izba" they used to live in. Hunting and fishing are very popular with them. The White Russians also prefer wooded areas. The Ukrainians, on the other hand, are mostly better farmers; they are to be encountered in especially large numbers in the Khanka Lake area, which is relatively free of woods, and around Bochkarevo /now: Kuybyshevka/, and they are descended in large measure from Cossacks who had been sent from the Don area. Their houses show the same whitewashed mud walls and are covered with straw like their "khata" in the Ukraine, although there is really no shortage of wood. Although there are often rivers flowing nearby, they dig a well near the house as a rule because well water, as they say, is cooler and more tasty. Woods in /114/ the vicinity of Ukrainian settlements soon are destroyed; the Ukrainian uses not only the axe but also fire against the woods. The Ukrainians are especially successful with cattle raising.

The cities, too, show the usual Russian face. In the center of the larger cities there are, in addition to narrow tenement houses, some

pompous, mostly very tasteless buildings of the Czarist period. But in the suburbs one-story log houses with four or more windows often line the unpaved streets with wooden sidewalks for kilometers. In the period of the Soviet regime the large cities have acquired entirely new sections which are transected with asphalt streets lined with trees, and on these streets rise light, detached apartment buildings, often with four or more stories; these apartment buildings seem almost like skyscrapers against the otherwise flat picture of the city. Chimneys and thick, reinforced concrete buildings of the factories, which today are most striking, rise above the new buildings as a rule. Thus in the cities there are the contrasts ranging from the old, primitive, peasant-like suburb to the most modern industrial establishments. Nevertheless, almost nowhere does one note that he is in the Far East. Even in the Chinese quarter of Vladivostock there stand the same whitewashed tenement houses, and only the Chinese writing and the nearby junk harbor betray the fact that one is in an east Asiatic harbor city.

The state-directed economy with its tight compression into cities and collectivization in the country has introduced many new traits in the life and work of the people, and many old, proved things have been destroyed. It has mixed people up and done many new things, so that everything is in the process of fermenting, of being reformed even in the folk life of the Russians.

Chinese, Koreans, and Others

In Transbaykal Chinese are encountered very rarely. They used to be there in larger numbers as traders in Maimache, the present Altin-Bulag, opposite Kyakhta on the Mongolian border, but they were driven from there during the uprising of the Mongols after the first world war.

The first Chinese came to the Amur and Ussuri country as ginseng-seekers, as "panten"/unhardened antlers/ hunters, and as traders, and later also as settlers. As culture pioneers they were valuable everywhere in the wilderness where they could practise agriculture, which they pursued industriously and successfully. Their ability to make capital out of everything, however, soon made them into unscrupulous exploiters of the natives, and, accordingly they were unwanted guests under the Russian administration, especially since they carried their rich earnings out of the country, then /115/, as a sworn community in trade, they suppressed all competition. They

•563 also engaged in smuggling gold. In 1900 it came to a catastrophe when the Russian authorities drove all Chinese over the border. At Blagoveshchensk nearly 5,000 perished who were chased with force into the Amur. The building of cities and industry, however, drew them again and again into the country as workers, and many of these remained in the country as settlers or also as frugal artisans. Culturally they have had a very strong influence on the natives, who, like the [177] Udekhe in southern Sikhote-Alin', have not only taken over the material life of the Chinese but have even given up their language in favor of that of the Chinese. Chinese clothing and the Chinese houses have asserted themselves as far as the Gilyak on the lower Amur and stand everywhere in competition with Russian influence, [342] which gradually has asserted itself. The Chinese house, the 'fanse,' has mud walls. Its gabled roof is covered with straw. Almost the entire front side is taken up by large windows, pasted over with oil-paper and covered with bars; these windows can be slid out and removed. On the sides and along the back wall there are no windows. [354] In the interior of the 'fanse' a small stove with an iron boiler lies on each side of the door. Smoke ducts lead from these two stoves under [352] the sleeping places which built from stone and mud, extend along the walls and fill nearly half the room. This type of plank bed, designated a "kang," is approximately 0.50 meters high. From these the smoke ducts then lead to the chimney, which is likewise made of stone and mud. Because of the danger of fire, the chimney always stands alone and somewhat away from the house. It is not uncommon for the 'kang' to have its own heating also. The farm buildings are [351] usually attached to the house at right angles, and the square courtyard thus formed is closed off behind by a wall or a fence. The Chinese also like to mark off a rectangular area in front of the house, or to surround their entire lodging with a wall which is often very thick; the natives, however, mostly are satisfied with the house alone, which is often only a wretched, dirty mud hut, whatever the layout.

[162] Of the 87,999 Chinese who lived in Siberia in 1939, approximately half live in the southern Ussuri region; the remainder are mostly scattered in the cities. The number of women among the Chinese is very slight and amounts to only 6 percent. In the southern Ussuri region, therefore, the number of Chinese-Udekhe half-breeds is large; they are generally designated "tas."

The Korean element in the population is entirely different. Some old villages in the Pos'yet area have existed since time im-

memorial. The immigration of additional Koreans, however, began only after the Treaty of Peking, and in this immigration the southern region was their preferred goal. These Koreans always came with their wives and families, and the majority of them were /116/ farmers. They are a valuable part of the population and show especial skill in growing Manchurian plants such as millet, beans, and rice. In addition, they keep cattle as work animals and pigs. They have succeeded in extending the cultivation of rice to the north as far as the Khabarovsk region. Of the approximately 170,000 Koreans (1939) who live in the Soviet Union, around 100,000 reside in the Ussuri region. A part of the remaining Koreans have been resettled in Turkestan where they live as rice planters on the Syr Dar'ya and the Iliysk.

A few thousand Japanese resided in the coastal cities up until World War I, but since then the number has constantly decreased and amounts now to a few hundred at most.

Worthy of mention as a special group are the Jews, who have their own autonomous region west of Khabarovsk on both sides of the right tributaries of the Amur, the Bira and the Bidzhan. Of the entire population, which number 108,400 (1939), approximately half are Jews, who engage in all vocations and who not only come from the Soviet Union but also from other countries.

In addition there are, scattered over the entire region east of Lake Baykal, Poles, Lithuanians, Latvians, Moldavians, Tatar, and others, including Germans; in short there are representatives of all peoples who reside in the Soviet Union. Their total number may be estimated at approximately 20,000 to 30,000.

Distribution, Development, Structure

With the overwhelming vastness of the area and the extraordinarily uneven distribution of the population, figures on the density of population have scarcely any meaning. The main part of the population, comprising about 90 percent, cluster together in a long, extended zone of settlements, which begins at Lake Baykal and stretches along the Amur and Ussuri to Vladivostok. The zone, which is otherwise narrow, attains a greater width in some areas.

In Transbaykal only the river areas of the Selenga and of the Amur are thickly settled, while in between in the area of the Yablonovyy Ridge there is a certain thinning out of the settlements. The valley region of the Selenga, which is occupied primarily by Buryat, attains

Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary, on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has received its name. By 1939 it already numbered 70,000 inhabitants, and today its population is estimated to be more than 150,000. The city has a large river harbor with an important shipyard in which sea-going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the construction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire area around the lower Amur. Already several years ago the city was connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

133 by a peaked series of hills, which are 50 to 100 meters high. However, individual hills all appear on the floor of the valley, from which they rise with very steep walls. Adjoining this area to the east is a gently rolling and irregular Tertiary hill country, which acts as a transition to the spurs of the Sikhote-Alin'. South of Khanka Lake and also in [137] the Suyfun depression numerous small oak forests have been preserved which give the picture of the landscape a varied and attractive impression. As a consequence of the good drainage the best agricultural land in the area is to be found in the Suyfun depression. But also in the Tertiary hill country agriculture is making good progress. Here are the /270/ most thickly populated sections of the Maritime Krai, in which, however, the entire region near the coast of the Bay of Peter the Great must be included.

•563 342 241 Great Russians above all are settling in the Ussuri depression. Their weathered, colorless log houses which are built of wood, are typical of the settlements in this area. Striking, however, in contrast to their homeland are the relatively flat roofs, which probably indicate the slight covering of snow which they have to bear here. Wheat, oats, and barley predominate in the appearance of their fields, but, in addition to corn, native plants, such as soy beans and perilla, are also appearing more and more. Ukrainians are the predominant settlers in the Khanka depression. As has already been indicated, this is based on historical reasons, since people from the Don above all were used in setting up the Ussuri Cossack formation of 1862. But it is still remarkable that it is Ukrainians who are in the majority in this almost treeless province. The bright color of their whitewashed mud houses dominates the settlements, and between the wheat fields corn comes strongly into the foreground. The Ukrainians here have also taken over for themselves the cultivation of sugar beets, just as they have in their homeland back in Europe. But, in addition, the yellow of the mud huts of the Chinese and Koreans also appears already in the individual settlements and in the village communities. These huts are often enclosed by the same mud walls; and in the flat, dammed-up fields there appears the light green of rice plantings, which are predominant in the damp area to the south of Khanka Lake. Further in the south toward the coast there is no longer a clear separation, but along the coast the Koreans increase. They often dress like Russians, but still they are more often dressed in the traditional white of the native clothing.

The breeding of livestock is pursued in the entire area: cows,

The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 162 231 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 162 The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population 433 here is more agricultural. In general, however, the agrarian economy is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

361 ships and indeed in many instances make departure impossible. From
505 Ayan a route starts toward Yakutsk. This route rises steeply over the mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

361 In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an
563 important fish collection point. On the coast and also in the hinterland
241 of the depression, numerous Russians have settled. In addition to an
231 agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

133 Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same names. During the summer, connection between these localities is maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities are Orotukan and Khatynakh. For connection with the outside world a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated. 361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

almost never penetrates into the land, however. 000

The area occupied by settlements is very slight in the east and 361
in the center of the depression. In the west, on the other hand, there 563
are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives.

There are only a few settlements on the coast because of its 361
flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region [505]
and is regularly visited by coastal steamers. A short while ago rather [135]
large Eocene brown coal fields were found in the vicinity of the locality. The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/ and supplies the coastal steamers. In addition, Anadyr' is the central [255]
station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory.

Toward the southwest the Anadyr' depression goes over into the 133
Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which

133 flows into the Sea of Okhotsk. In comparison with the Anadyr' region
[137] the climate here in the Penzhina lowland is somewhat milder. The inclination of the ground is greater, and thus the moss steppes widely diffused here are not so very swampy: the larger rivers are accompanied by poplar forests almost everywhere. Toward the mountains there is the same alternation in the vegetation picture as there. At the mouth
361 of the Penzhina lies Kamenskoye, where the coastal steamers land.
563 The capital, Penzhina, itself is a small village lying in the middle of a lonely moss steppe in the interior of the region. Koryak constitute the majority of the small population. They are in part sedentary, living as fishermen in the villages, or they wander as nomads with their reindeer herds on the good grazing grounds of the moss steppes
135 In the Tertiary layers, which fill the Penzhina basin, coal-bearing series have recently been found, which also contain lighter lignite in addition to brown coal of good quality. The deposits are said to stretch almost over the entire Penzhina basin.

133 On the east the Penzhina lowland is bordered by a flat mountain ridge, the Penzhina Mountain Range. The very long moss steppe, the Parapolskiy-Dol, whose character is like that of the Penzhina lowland, stretches on the other side of the Penzhina Mountain Range from southwest to northeast. In the south this moss steppe widens and traverses the entire land narrows which connects Kamchatka with the mainland. Here in the middle of the land narrows the moss steppe reaches a height of 155 meters.

The region between the mouth of the Anadyr' in the north and the land narrows in the south is taken up by a still little known central mountain range, which is usually designated the Koryak Mountain Range, after its principal population. This mountain range fills the entire area as far as the east coast, and its waters in the main empty into the Bering Sea. Traversing the land which is mostly formed like a high plateau are three lines of mountain ranges: the Pal-Mal, the Tingeney, and the Rarytkin Ridge. Like the entire Koryak Mountain Range generally, these three belong to the outer zone of the Tertiary faulting belt and are regarded as a continuation of the Kamchatka Mountain Range. In contrast to the interior which is like a high plateau with a general height of 500 meters, the rivers flowing toward the coast are deeply dug in, and thus from the sea an impression more like a mountain range arises. The bulk of the surface is covered with tundra, only the more protected places and valleys have forests. Reindeer-breeding Koryak inhabit the interior and also constitute the population of the /295/ fishing settlements on the coast.

population of the /295/ fishing settlements on the coast. The center of the fishing and the processing of fish is Ust'-Apuka, west of Cape Olyutorskiy. 361 583

Tertiary brown coal deposits have also been found in the Koryak Mountain Range in Korff Bay in the south and in the Ugol'naya Bay in the extreme northeast. In Korff Bay the deposits have already been mined for years, and the coal from here is used to supply coastal shipping. The coal here is of Miocene age and is contained, as far as the supplies have been investigated to date, in 11 seams with a total thickness of 20 meters. In this the quality of the upper seams is very different from that of the lower seams. The uppermost seam represents typical lignite; the lower seams, on the other hand, are like a gleaming, bituminous coal. Mining is supposed to have been taken up in Ugol'naya Bay also, and a coal base is likewise supposed to have been erected. 135

Kamchatka Peninsula

Like a spearhead Kamchatka Peninsula projects toward the south, separating the Bering Sea from the Sea of Okhotsk. The peninsula covers 270,000 square kilometers and has a length of 1,200 kilometers, which corresponds approximately to the distance from Berlin to Rome. 133

South of the Parapolskiy Dol plateau which stretches across the land narrows, the first lines of heights begin, and these then develop into two mountain chains as the peninsula widens. Between these two chains, the western and the eastern, is imbedded the valley of the Kamchatka River.

The low medium mountain range of the west increases considerably in height south of the Palana River. In the area of the Tigil' River the main chain is richly divided up, is accompanied by parallel chains, and reaches already a height of 1,650 meters. In the area around the source of the Bystraya and the Icha rises the truncated volcano cone of the Ichinskaya Sopka, which projects over its approximately 1,200 meter high ground area to the gigantic height of 3,607 meters. The mighty dome of the mountains is covered with glaciers, from which some hanging glaciers flow down. The water from the melting of these hanging glaciers has torn deep furrows. The Ichinskaya Sopka is the sole active volcano in the western half of Kamchatka; thick smoke rises constantly from its crater. South of the Icha the character of the mountain range changes basically. North of the Icha,

133 These volcanos, /299/ projecting far beyond the general level, give the landscape of Kamchatka its peculiar picture.

137 The bottoms of the valleys, if they are not too very swampy and covered with moss, have luxuriant meadows, which appear especially in the southern part of the peninsula and which offer excellent [231] grazing ground for livestock. The introduction of the breeding of livestock has, therefore, attained the greatest measure here, too. To be mentioned especially as characteristic of the landscape picture are the high-growing plants in these regions, especially the umbrella-shaped "sweet grass" (Heracleum tanatum or Heracleum dulce), [243] which grows up to 4 1/4 meters high and develops a stalk 12 centimeters thick. The natives use the juice of this rapidly growing plant [273] to sweeten their food; the Russians earlier extracted alcohol from the plant by fermentation.

133 137 Entirely in contrast to the forest and park landscapes of the mountain regions which are rich in vegetation, are the tundra-like moss steppes which stretch in a broad zone along the entire western coast. In the east, on the other hand, these moss steppes form only a narrow rim around the bays. Occasionally these steppes occur also in the valleys of the mountain ranges. These monotonous regions are depressingly dismal and gloomy especially when a veil of fog hangs over them and prevents seeing any distance.

161 The population of Kamchatka according to estimates, scarcely numbered 20,000 in 1914, and the native element was in the majority at that time. But after World War I and up to the present the population has multiplied because of the increased immigration of Russians, and by 1945 the population was given at around 100,000. Thus today the Russians are predominant, constituting approximately 80 percent of the total population. Today their number is estimated to be at least 150,000. The sedentary population is divided among three lines of settlements: the east coast, the west coast, and the Kamchatka Valley.

•563 The Koryak and Kamchadal constitute the bulk of the native population. The Koryak occupy the northern half of the peninsula and the adjoining mainland between the Penzhina depression in the west and the coast of the Bering Sea on the east. On Kamchatka itself they live on the west coast as far as the Sopochnaya River in the south and in the region around Litke Bay. In the Kamchatka valley itself they are no longer to be encountered. Their region of residence has been brought together into a national okrug, in which they, as well as the Chukchee, enjoy cultural autonomy. The capital of their

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

however, the MVD appoints the head of Dalstroy, leaving to him the selection of his assistants. Authority is held and exercised solely by Dalstroy, and everybody who represents this authority is appointed by the head of the organization or his assistants acting as his agents. Every inhabited place has a "commandant" who has authority over the territory under his control. Under Dalstroy rules this commandant has the right to inflict the death penalty on all prisoners. 625 642

A somewhat different status is accorded to the remnants of the native tribes which form so-called "national districts." They enjoy various privileges and are given assistance by the Soviet Government; however, it should be noted that these privileges and assistance can be considered as such only in comparison with the position of the prisoners. These local tribes number only a few thousand, and even in their national districts they have no real authority to govern themselves. [563]

4) Population: The population of the region[1] is not accurately known, primarily due to the continual turnover of prisoners who are imported by the hundreds of thousands yearly and who die at almost the same rate. Before the discovery of gold and the creation of Dalstroy, the local population could hardly have exceeded 25,000 to 30,000; according to the census of 1926-1927 the population of the Kolyma region was 7,580. It is very unlikely that the number of aborigines has materially increased under the rule of Dalstroy; in fact, during the first period of the Revolution the native population showed a marked tendency to decrease. 161

However, the total population of the Kolyma region during the Dalstroy administration has grown fantastically, and the only explanation is the importation of prisoner labor. The exact number of prisoners cannot be determined for obvious reasons; however, according to a report by a Soviet seaman who formerly served on ships running between Vladivostok and Magadan the entire Kolyma region is 505 466

> "a single concentration camp. Into it have been thrown huge masses of the repressed. How many of them he cannot say exactly.... In his opinion it may be calculated with considerable accuracy that during the years 1937 to 1940 not less than a million and a half persons were brought on steamers from Vladivostok to Magadan; during each navigation season from April to November four Dalstroy steamers (Felix Dzherzhinskiy, Dalstroy, Soylatrya, and Dzhurma) were in operation, each making from 12 to 15 voyages in the course of the summer and bringing from 6,000 to 9,000 persons on each voyage."[1]

(Note: Radio Magadan in a report on 24 October 1955 stated that "Nagayevo port vessels -[Nagayevo is the port servicing Magadan]- have fulfilled their annual cargo delivery plan 105.8%...the seagoing vessels of the Nagayevo maritime port overfulfilled their 8 month cargo delivery plan but failed to fulfill their 9 month plan. The leading place among seagoing vessels is being held by the steamship 'Felix Dzherzhinskiy.' Good results were also achieved by the steamship 'Dzhurma' which is on its way from Nakhodka to the Kresta Bay carrying vegetables, foodstuffs, manufactured goods, fruits, construction and technical materials, and equipment." The interesting feature of this report is the fact that the steamships "Felix Dzherzhinskiy" and "Dzhurma" which were definitely known to be transporting laborers in 1940 are still plying the same route and very likely are carrying the same "freight" because the hulls of these two ships are known to be constructed to carry prisoners, not freight as stated.)

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1 Dallin, David J., Forced Labor in Soviet Russia (New Haven, Yale University Press, 1947), pp. 136-137 1/ [i.e., Kolyma - ANALYST]

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the idea of an American orientation and conducted a great deal of propaganda in the United States. A dispute broke out also among the Far Eastern communists as to the selection of the Republican capital. Those who stood for greater independence suggested that the capital should be established there where contact with the non-Russian world was most intimate, in Vladivostok. The Bolshevik Central Committee, on the other hand, realized the dangers inherent in such a move. It ruled that the headquarters of the Far Eastern government should be in the Russian city of Chita and not in the cosmopolitan port of Vladivostok.

Throughout its existence the F.E.R. had a very difficult time. Parts of the Republic were occupied by Japanese troops and others were the scene of white guard activities. Accordingly, the government of the F.E.R. exercised only a nominal sovereignty over certain of its provinces. Paradoxically enough, the Japanese occupation of the F.E.R. was not only the chief source of its weakness but also its principal *raison d'être*. The setting-up of the F.E.R. enabled the Russian Far Easterners, particularly the peasant colonists, to support Soviet foreign policy and the Soviet fight against foreign intervention without identifying themselves with the Communist Party and its economic aspirations. On October 25th, 1922, the last Japanese soldier left the Russian mainland and the need for a 'Far Eastern Republic' ceased automatically. The Constituent Assembly of the F.E.R., in which the communists had four-fifths of all seats, decided to hand over its powers to a 'Far Eastern Revolutionary Committee', the *Dalrevkom*, which was already a direct organ of the Soviet Government.

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The decision of the Far Eastern Constituent Assembly did not mean that the Russians of the Far East were in any way united behind the Communist Party. The communists constituted a minority in the Far East even smaller than anywhere else in Soviet Russia. Early in 1922 they had only 7,000 members in the whole of the F.E.R., and this was on the eve of a purge which aimed at a reduction of the membership by 15 to 18 per cent.[2] The Party relied on the support of a section of the 'Far Eastern Trades Union Congress' (D.V.S.P.S.) which had 40,000 members; but how many of them really sympathized with the communists it is impossible to say. In view of its numerical weakness and isolation the communist movement in the Far East had to go carefully and had to make some concessions to regionalist tendencies. Many people in the Russian Far East continued to favour a special status for their homeland and hoped that after the abolition of the F.E.R. it would not become just another Soviet Russian province. At the beginning their hopes were not entirely betrayed.

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THE FAR EASTERN TERRITORY

636 During the whole period from 1922 to 1937–38 the Soviet Far East enjoyed a special position within the Soviet Union. From the administrative point of view the Soviet Far East formed one large unit, the 'Far Eastern Territory' (F.E.T.). It covered roughly one-eighth of the entire surface of the U.S.S.R. The F.E.T. existed from January 1926 until October 1938, but there was a slight amputation of the territory in 1930, when the districts of Sreten and Chita were detached. Militarily, too, the Soviet Far East had a semi-independent existence by the establishment, in August 1929, of the Special Far Eastern Army ('Osobaya Dalnevostochnaya Armiya') usually referred to by its initials as ODVA and a year after its foundation as OKDVA (Osobaya Krasnoznamyonnaya Dalnevostochnaya Armiya', meaning 'Special Far Eastern Army decorated with the Order of the Red Banner').

Both army commanders and administrators in the Far East showed a considerable degree of independence, which, in some cases, even expressed itself in open opposition to the régime. This is true, in particular of the party leaders of Vladivostok, a city which, like that other opposition centre, Leningrad, was a window into the world. The radical course, aiming at the liquidation of the remnants of private property, which the Bolshevik Party took after its Fifteenth Congress (1927) did not meet with approval in a trading centre like Vladivostok. Both [661] Vladivostok and Chita became, in the late twenties, strongholds of a right-wing opposition and the Central Committee in Moscow had to dismiss the local party chiefs.[3]

185 ●578 Difficulties between the centre and the Far Eastern communists continued after the suppression of the right-wing deviation. Problems connected with the implementation of the First and Second Five-Year Plans were an almost inexhaustible source of disagreements. Already during the first Five-Year Plan period the State Planning Commission in Moscow had worked out big development schemes for the Far East, providing for the building of additional railways, an increase of coal and oil production, and far-reaching industrialization. When it became clear that many of the envisaged projects could not be carried out neither Moscow nor Khabarovsk wanted to take the blame for the failure. The central authorities complained about the inefficiency of the 'Far Easterners' and the latter denounced the lack of understanding of the officials at the centre. At the Sixteenth Party Congress, which was held in 1930, the spokesman of the F.E.T., Perepechko, referred to the 'hideous attitude of various central organizations' towards the economic problems of the Far East.[4] If it were not for this negligence, Perepechko asserted, the F.E.T. would carry out the basic tasks of the Five-Year

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185 Plan in three years. The later development showed that it took not three
● 578 but ten years to reach the target figures which the first Five-Year Plan had fixed for the coal and oil production of the Far East.* The Central Government refused to admit that the shortcomings in the Far East resulted from deficiencies of all-Union planning, and tried to put the blame on local scapegoats who were charged with committing deliberate sabotage. More than that, the Central Government alleged that the Far Eastern administrators were 'Japanese spies', although they were, presumably, no more connected with Japan than the Leningrad opposition was linked with Germany. The Far Eastern communists, it is true, had shown great eagerness to establish commercial relations with other Pacific countries including Japan, but this had been done with the agreement of the centre.

THE PURGE OF THE 'CIVILIANS'

661 Although there was no evidence for charges of high treason the Soviet
687 Government carried out a purge on a vast scale throughout the Soviet
665 Far East. It would be incorrect to say that there was one big purge. There were at least two purges, one directed primarily against 'civilian' communists, and another aimed mainly at the army. The first purge, which was closely connected with economic shortcomings, started in the first months of 1937 and led to the disappearance of the head of the administration of the F.E.T., Krutov, and of the party secretary, Lavrentev. At the same time administrative heads and party officials were sacked all over the Soviet Far East. For many months there were no 'first secretaries' in many city committees and district committees of the Communist Party.

There is one aspect of the purge of the 'civilians' in the Far East which deserves special mention, the purge of the railwaymen. The railwaymen of the Far East were traditionally the backbone of the Communist Party in that distant part of the Soviet Union, and the solidity of Moscow's connection with the Pacific coastal areas depended largely on their efficiency. In the 'thirties' their job became increasingly difficult. Between 1933 and 1936 the freight turnover of the Far Eastern railways had increased three times. This was more than they could stand. The Far Eastern railway system broke down. A great many accidents occurred. The Government asserted that they were all engineered 'on instructions of the Japanese intelligence service.' The supreme responsibility for the wrecking of trains was officially attributed to Trotsky and to the

* Production of oil was to reach 464,000 tons by the end of the first Five-Year Plan in 1932. In 1933 output was 196,000 tons; in 1936, 308,000 tons, and in 1938, 360,000 tons. The coal target for 1932 was 4,000,000 tons. In 1933 output had reached 2,020,000 tons, and in 1936, 3,617,000 tons. The target for 1937 was 5,000,000 tons, but actual production in 1938 was only 4,750,000 tons.

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

101 563 [621] [583] [776] [763] [769]

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

[197] [281] 101 563 342

Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their [262] chest but with their neck. The main food of the Gilyak is fish dried in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [441] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role: this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

Orochi, Gilyak

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[197] [281] 101 563 342

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636 administrative units, such as, for instance, the West Siberian Territory, 656 the East Siberian Territory and the North Caucasus Territory. The Far Eastern Territory was, however, the last to be affected by these administrative reforms, and then only after the purges there had been completed. On October 20th, 1938, it was decreed that the Far Eastern Territory would cease to exist and that two new 'Territories' would take its place, the Khabarovsk Territory, which still included the bulk of the former F.E.T., and the Maritime Territory, with Vladivostok as the capital. After the war the administrative splitting up of the Soviet Far East was carried further. In the west, the Khabarovsk Territory lost the Amur Province (administrative centre: Blagoveshchensk) and, in the east, Sakhalin was removed from its jurisdiction and made a self-contained province.

●625 433 To consolidate the position of the party in the two new 'Territories', a position so badly shaken by the purges, the government saw it necessary to strengthen the powers of the N.K.V.D., particularly the control which the latter exercised over several vital branches of Soviet Far Eastern economy. The full extent of the N.K.V.D. rule in the Far East was disclosed by the Soviet Economic Plan for 1941, a secret document produced for inter-departmental use, but not intended for the Soviet public and still less for foreigners.* It showed that the People's Commissariat for Internal Affairs was a much more important organizer of certain industrial activities than the ministries nominally responsible for them. The plan revealed, for instance, that the N.K.V.D. controlled nearly 83 per cent of the coal output of the Khabarovsk Territory. Only 13 per cent of it was in the hands of the People's Commissariat for Coal (*Narkomugol*) and the remaining 4 per cent was split up between other ministries. In the field of timber production the N.K.V.D. did not hold the same monopoly. It provided 'only' one-third of the entire timber supply of the territory, slightly more than the quota allocated to the People's Commissariat for the Timber Industry (*Narkomles*). Another important sector of N.K.V.D. work was production of building material. Over one-fifth of the bricks produced in the Khabarovsk Territory in 1941 was to come from the Chief Administration of Corrective Labour Camps, one of the specialized agencies of the N.K.V.D. In the much smaller Maritime Territory the N.K.V.D. has little importance as an economic factor, except for the timber industry, where it tackled over 20 per cent of the whole production. But

* The full title of the document is 'Gosudarstvenny Plan Razvitiya Narodnogo Khozyaistva S.S.S.R. na 1941 god (Prilozheniya k Postanovleniyu S.N.K. S.S.S.R. i TsK VKP (b) Nr.' 127 ot 17 Yanvarya 1941 g.) – State Plan for the Development of the National Economy of the U.S.S.R. for 1941 (Appendices to the Decree of the Council of People's Commissars and of the Central Committee of the All-Union Communist Party (Bolsheviks), Nr 127 of January 17th, 1941.) The material on the economy of the Soviet Far East is contained in the appendices 371, 372 and 373, pp. 324–336.

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even where the N.K.V.D.-M.V.D. has no direct economic power it is the decisive political force, above all, in border areas like the Maritime Territory of the Soviet Far East.

There are indications, however, that the police ministry has encountered certain difficulties among the Far Eastern Russians during the war and post-war period. Conditions were certainly favourable to a re-emergence of that Far Eastern regionalism which Soviet power has tried so hard to eliminate. The people of Vladivostok, in particular, must have felt once more that the natural destiny of their city was that of a window into the world. They saw the many American lend-lease shipments arriving in their harbour and were bound to draw certain conclusions about the desirability of international trade and Soviet-American co-operation. More than people in other parts of the Soviet Union must the Russian inhabitants of the Pacific coastal areas have resented the policy of rigid isolationism which the Soviet Government has pursued particularly since 1947.

This frame of mind of the 'Far Easterners' makes it understandable that the very existence of an American consulate in Vladivostok was a matter of concern to the Soviet Government. The building of the consulate was put under constant supervision and for long periods it was floodlit at night. In 1948, the Soviet Government used a flimsy pretext to demand from the United States that they should withdraw their consular personnel from the Pacific port. The measure had little importance for the Americans as the activities of the four American consular officials were extremely limited, but it had a certain symbolic significance. The closing down of the consulate was a way of telling the people of Vladivostok that their hopes of their city becoming a link between Russia and the West were once more doomed. Some years later the charge was made that the consulate had been the centre of a spy-ring. This accusation was first put forward in the short story *In a Seaside Town* ('V Primorskom Gorode') which the popular Soviet illustrated *Ogonyok* published in 1950. In the daily press the 'plot' was mentioned for the first time on February 8th, 1953, when *Izvestiya* wrote : 'In 1947, the organs of the state security service liquidated a spy-nest organized by the assistant naval attaché at the American consulate general of Vladivostok, Richard'. *Izvestiya* produced no further details nor any evidence to support its disclosure which it simply quoted from a book *The Secret Weapon of the Doomed*. This latter work had come out under the auspices of the Komsomol organization. The absurdity of the Vladivostok spy story does not preclude the possibility that many Russian Far Easterners in the late 'forties' and early 'fifties' were persecuted for pro-Western sentiments just as others had been victimized for alleged pro-Japanese leanings in the late 'thirties.'

The particular sensitiveness which the Soviet authorities have shown

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inhabitants of over forty-five European Russian gubernii participated in the colonization after the hardships of a long and complicated journey had been alleviated.[14] Migration to the Far East assumed a real mass character, particularly after the Russo-Japanese War, when numbers reached the record height of 76,637 in 1907.

The boom of the migration to the Far East in the last years of the Czarist régime made little difference to the magnitude of the task which the Soviet power had to face. This can be gathered from the fact that in 1926 the total number of inhabitants in the F.E.T. was still below the two million mark, and this included both Asiatics and Europeans. The number of Europeans alone did not exceed 1,600,000, including 1,531,000 representatives of the three main Slavonic peoples of the U.S.S.R. – Great Russians, Ukrainians* and Byelorussians. Thus, the Europeans of the Russian Far East were an insignificant factor compared with the masses of China and Japan living at Russia's doorstep. We shall see now by what means the Soviet Government tried to change the situation and what success it achieved in its endeavours.

COLONIZATION BY CONVICTS

Colonization by convicts is neither a Soviet nor a Russian invention. It has been practised elsewhere, for instance, in Australia, but there it came to an end in 1838. In Russia, more particularly in the Russian Far East, colonization by convicts is not only flourishing at the present time, but it may not even have reached its maximum expansion. Certain remote Soviet Far Eastern territories have absorbed especially high numbers of forced labourers. Consequently, the colonization of the vast area which forms the hinterland of the Okhotsk Sea is almost exclusively due to convicts working under the supervision of the M.V.D. (previously N.K.V.D.).

* According to the 1926 census the Ukrainians in the Far Eastern Territory numbered 315,000 and the Byelorussians 41,000. There are particularly important Ukrainian settlements near the town of Blagoveshchensk, as well as at several points along the railway line running from Khabarovsk to Vladivostok, parallel to the Chinese-Soviet border. The Soviet régime provided Ukrainian language schools for the Ukrainian settlers and founded as many as seventeen Ukrainian 'National Districts' in various parts of the F.E.T.

Ukrainian nationalists refer to the entire Soviet Pacific coastal area as the 'Green Wedge' (Zeleny Klin) as distinct from the 'Grey Wedge', which is the Ukrainian settlers' area in Northern Kirghizistan and Southern Kazakhstan. These nationalists are inclined to consider the Soviet Pacific region a Ukrainian and not a Russian national possession. Indeed, the *Ukrainian Encyclopedia*, published by Ukrainian scholars of Eastern Galicia during the inter-war period, described the 'Green Wedge' as a 'Ukrainian colony on the Pacific Ocean'. The *Encyclopedia* estimated that 30 per cent of the population of the 'Green Wedge' were Ukrainians, against 52 per cent 'Muscovites', i.e., Great Russians. (*Ukrainska Zagalna Entsiklopedia*. Lviv-Stanislaviv-Kolomiya, 1935, vol. ii, pp. 42–3.) The importance of the 'Ukrainian problem' in the Soviet Far East must not, however, be overestimated. The dividing line in the Far East does not run between the various groups of European colonists but between Europeans and Asiatics.

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316 655 (previously N.K.V.D.). Under the general direction of the latter a powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

655 6.25 The activities of the Dalstroy are many-sided. The 'Mining Administration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of [461] 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

167 361 The colonization activities of Dalstroy have changed the character of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

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connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

115 a survey of the development and buildup of the Magadan-Kolyma area with
121 the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

[13] 2) Physical Features of Kolyma: Kolyma is that region in the
63 northeastern part of Siberia, named for the Kolyma River; the boundaries have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 Be that as it may, there is ample evidence to support the contention
631 that neither of the two above cited political divisions are technically correct; due to the establishment of Dalstroy (Far Eastern
471 Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 3) Administration: The Constitution of the USSR is not formally
625 operative throughout this vast area[1] (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

[1] [i.e., the Kolyma region of Siberia — Analyst]

however, the MVD appoints the head of Dalstroy, leaving to him the selection of his assistants. Authority is held and exercised solely by Dalstroy, and everybody who represents this authority is appointed by the head of the organization or his assistants acting as his agents. Every inhabited place has a "commandant" who has authority over the territory under his control. Under Dalstroy rules this commandant has the right to inflict the death penalty on all prisoners. 625 642

A somewhat different status is accorded to the remnants of the native tribes which form so-called "national districts." They enjoy various privileges and are given assistance by the Soviet Government; however, it should be noted that these privileges and assistance can be considered as such only in comparison with the position of the prisoners. These local tribes number only a few thousand, and even in their national districts they have no real authority to govern themselves. [563]

4) Population: The population of the region[1] is not accurately known, primarily due to the continual turnover of prisoners who are imported by the hundreds of thousands yearly and who die at almost the same rate. Before the discovery of gold and the creation of Dalstroy, the local population could hardly have exceeded 25,000 to 30,000; according to the census of 1926-1927 the population of the Kolyma region was 7,580. It is very unlikely that the number of aborigines has materially increased under the rule of Dalstroy; in fact, during the first period of the Revolution the native population showed a marked tendency to decrease. 161

However, the total population of the Kolyma region during the Dalstroy administration has grown fantastically, and the only explanation is the importation of prisoner labor. The exact number of prisoners cannot be determined for obvious reasons; however, according to a report by a Soviet seaman who formerly served on ships running between Vladivostok and Magadan the entire Kolyma region is 505 466

> "a single concentration camp. Into it have been thrown huge masses of the repressed. How many of them he cannot say exactly.... In his opinion it may be calculated with considerable accuracy that during the years 1937 to 1940 not less than a million and a half persons were brought on steamers from Vladivostok to Magadan; during each navigation season from April to November four Dalstroy steamers (Felix Dzherzhinskiy, Dalstroy, Sovlatvia, and Dzhurma) were in operation, each making from 12 to 15 voyages in the course of the summer and bringing from 6,000 to 9,000 persons on each voyage."[1]

(Note: Radio Magadan in a report on 24 October 1955 stated that "Nagayevo port vessels -[Nagayevo is the port servicing Magadan]- have fulfilled their annual cargo delivery plan 105.8%...the seagoing vessels of the Nagayevo maritime port overfulfilled their 8 month cargo delivery plan but failed to fulfill their 9 month plan. The leading place among seagoing vessels is being held by the steamship 'Felix Dzherzhinskiy.' Good results were also achieved by the steamship 'Dzhurma' which is on its way from Nakhodka to the Kresta Bay carrying vegetables, foodstuffs, manufactured goods, fruits, construction and technical materials, and equipment." The interesting feature of this report is the fact that the steamships "Felix Dzherzhinskiy" and "Dzhurma" which were definitely known to be transporting laborers in 1940 are still plying the same route and very likely are carrying the same "freight" because the hulls of these two ships are known to be constructed to carry prisoners, not freight as stated.)

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1 Dallin, David J., Forced Labor in Soviet Russia (New Haven, Yale University Press, 1947), pp. 136-137 ½ [i.e., Kolyma - ANALIST]

Magadan to Srednikan, and then on to Seimchan. The distance by air was some 200 miles and it was planned to open this road by 1934. The project was begun in the autumn of 1932, but winter set in early, and reliable accounts have claimed that

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> "Blinding snowstorms raged for weeks on end. At times, even in Magadan, walking from one house to another was almost impossible. On several occasions communication with the taiga was completely cut off, and no food could be sent to the inland camps. Since the supplies the prisoners could take with them on leaving Magadan were extremely small, famine would set in.... In addition, in the absence of barracks men had to live in tents or, more often, in brushwood huts, with the temperature at -60. In spite of the insufferable cold, the prisoners went on with their work. Even under normal taiga conditions prisoners died by the hundreds and thousands, and nearly everybody had frostbitten hands and feet. What went on in some of the winter camps must have remained a mystery to the authorities, since in some no living beings were left—neither prisoners nor guards, or even dogs. One of the valleys of the region, the Shaivinski, has since been called 'the Valley of Death.' ...a party of prisoners numbering several thousand, together with the entire convoy of guards, lost their way in the blizzard and died to a man. It used to be said in Magadan that of all those who were 'thrown' into the taiga in the first heroic year of Dalstroy, only one out of 50 to 100 came back."[6]

The Magadan-Seimchan highway proved to require more than the planned two years, and the work was not completed until 1937. In return for this accomplishment, Dalstroy and Berzin were expecting to receive generous rewards. However, upon his arrival in Moscow Berzin was caught in the vast purges of that year and was executed, having been charged with "having ties with capitalist countries, of selling gold to foreign countries, of surrounding himself with confessed or secret 'Trotskyites' as well as other oppositionists, and of planning a coup d'etat in the region and seizing all power so that he could secede from the USSR and join the United States or perhaps Japan."[7]

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b. Violence under Garanin (1937-1938): The years 1937 and 1938 resulted in the purges of countless "oppositionists," and Magadan had a large turnover in personnel; many of the NKVD personnel were purged, and a new administration was ushered in with the appointment of Garanin to lead Dalstroy.

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At this stage the population of Kolyma increased tremendously; about 100,000 prisoners were brought in annually. Most of these new prisoners were "counterrevolutionary elements"—people who had not done physical labor previously, such as scientists, artists, politicians, educators, leaders of industry, trade, among others. In 1938 the purge struck the prisoners in Kolyma when "Garanin undertook to liquidate thousands of intellectuals. Henceforth there was no more fur clothing for the prisoners. The standard equipment became wadded jackets and trousers which soon hung like torn rags.... The felt boots were replaced by shoes made of canvas.... The wretched rations of the prisoners were deficient in fats; the major component was bread."[8] However, the quantity of bread allotted to each prisoner was determined by the amount of work

6 Ibid., p. 125.
7 Ibid., p. 131.
8 Lipper, Elinor, Eleven Years in Soviet Prison Camps (Chicago, Henry Regnery, 1951), p. 106.

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he did in accordance with the norm: since norms were set very high even for healthy peasants from the farms, intellectuals invariably failed to meet their quotas. Garanin frequently made trips throughout the various camps, seeking those who had not fulfilled their quotas--these were then shot. "This was still not enough. At night he would have thousands of enemies of the people taken out of all the Kolyma camps...and driven off to prison. This prison called Serpantinka is about 375 miles west of Magadan, in the midst of the forest, and it is probably one of the most ghastly institutions in the Soviet Union.... It was estimated that Garanin had the deaths of some 26,000 persons on his conscience.... He was finally recalled (1938)."[9]

c. Blundering of Vyshnyevetsky (1938-1941): After the arrival of Vyshnyevetsky "no change was made in the treatment, clothing, or food of the prisoners. But the summary trials and shootings of prisoners without trial ceased. The mortality among the miners remained at a constant 30%."[10] The cause of the downfall of the new head of Dalstroy was the expedition to Pyostraya Dresva Bay. In the spring of 1940 a ship was sent to that area with several thousand prisoners and some 800 free citizens on board to exploit the precious metals found to exist in that area. Inasmuch as the ship left so late, Vyshnyevetsky was warned of a possible disaster when the ice jams formed. Prisoners were shipped wearing only summer clothing and with thin shoes. At the destination prisoners began work on the construction of camps in which they were to be imprisoned. However, a hurricane destroyed all the efforts at the construction sites, and the following spring the remnants of the expedition returned to Magadan: 200 free men and 150 prisoners. Not one of the men who returned did not suffer from frostbite, and eyewitnesses in the hospital at that time claim that the survivors, to the last man, were either amputees or insane. For this enterprise Vyshnyevetsky was recalled to Moscow where he was sentenced to 15 years imprisonment; his arrest was due to the fact that 600 free men had perished in the futile effort, but no reference was ever made to the thousands of prisoners who also perished.

d. The Regime of Nishikov (1941-present?): The new chief of Dalstroy was Lieutenant General Ivan F. Nishikov, who according to the latest reports still is in command; whether the execution of his superior, Beria, affected his status is not known. According to Elinor Lipper in her book "Eleven Years in Soviet Prison Camps," the authoress, who was imprisoned in various Kolyma prison camps from 1938 to 1946, states that:

> "he is icily, mercilessly cruel. By cruelty he pushed through the fulfillment and overfulfillment of the gold plan; by cruelty he won decorations and large money bonuses. In 1942 at the age of fifty, he divorced his first wife.... He placed her and her grown son, who was a state's attorney in Magadan, aboard a ship headed for Vladivostok, and married a young communist girl of 29 named Gridassova, a primitive, crude, avaricious creature, who is only too well known to myself and to other female prisoners, for she functioned as the harsh commander of the Magadan women's camp. Thanks to her husband's position she has risen in the military hierarchy and has been decorated. She is the head of Maglag, the camp district of Magadan and the surrounding region, and rules the lives of tens of thousand of prisoners.
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> The couple's country house is located on the highway forty-five miles northwest of Magadan. It is furnished and equipped in the greatest comfort and is surrounded

9 Ibid., pp. 106-107.
10 Ibid., p. 108.

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by Nishikov's private hunting preserve. Near by, the prisoners of the invalid camp called 'Seventy-second Kilometer' work in a glass factory which is under the special protection of Gridassova and consequently always registers a marvelous production record. During the War burnt-out electric bulbs were repaired there, since new bulbs were almost unobtainable and even tiny bulbs were sold at a hundred and fifty rubles."[11]

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7) The Kolyma Buildup (1932-1946): As has been indicated earlier, Magadan and the entire Kolyma area were almost uninhabited in 1932 when the expedition under Berzin reached Nagayevo port; however, although at a fantastic cost in human lives, remarkable development of the Kolyma area was made. As early as 1946 it was clearly known that Dalstroy's extensive and many-sided activities were coordinated in a system of administrative organizations, each of which deals with a specific section of the region's economy—the centers of all these organizations are located in Magadan. At that time the following were known to exist: administrations of supplies, fish industry, coal, wood manufacturing industry, road building, agriculture, motor transport, and a few others. Essentially these administrations have the same task—they must insure uninterrupted operation and success in the chief industry of the region—gold mining, and with this ultimate goal in mind, they must supply all necessary materials and products. The ideal situation, as desired by Dalstroy and no doubt by Moscow as well, seems to be for Magadan to be completely self-sufficient and to turn over to the state all gold mined. As far as the fishing industry is concerned, it is known that fish is exported from Kolyma to Vladivostok. Attempts have been made to extract oil locally to supply motor transport in the region; however, there has been little success in this project although the presence of oil deposits in the area has been definitely established.

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Road construction was one of the primary tasks upon the initial efforts in Kolyma; just before World War II, another spurt in road building occurred. In 1939 the administration of road building was split into two independent organizations, one for the south and one for the north. By that time, the trunk highway from Magadan to Seimchan was being extended in the direction of the newer gold fields on the upper Indigirka River, and a number of side roads were also constructed to connect the main gold fields on the upper Kolyma River with the highway. Altogether, according to the best estimates, there were approximately 901 kilometers of paved roads in actual use at that time. However, this was inadequate, and in 1939-1940 a new plan of extensive road building was drawn up covering the construction of new roads in the extreme north, at the Kolyma estuary, and in the south, on the upper Kolyma, in the so-called "old" gold mining districts. In addition to new tributary roads, work was started in 1939 on the construction of a second motor highway from Dresva Bay on the Sea of Okhotsk to the gold-mining territory on the upper Kolyma. Even far more reaching were the plans for road construction east of the Kolyma estuary, in the tundra of the Arctic coastal region, down to the Bering Strait, where geological exploration had discovered gold fields of exception richness, perhaps exceeding those of the upper Kolyma. There have been no exact data concerning these plans; understandably, the information coming from the deep interior of the Kolyma region is generally far more scant than that coming from Magadan. However, at the beginning of the Russo-German War in 1941, all these plans for road construction were curtailed for obvious reasons. As has been indicated earlier, practically all construction activities were halted and many short-term prisoners were even sent back to European Russia where they served actively in the defense of the Soviet Union. In connection with the construction of roads just prior to the German

11 Ibid., pp. 110-111.

131 from north to south is almost 1,000 kilometers long, and Kamchatka Peninsula stretches around 1,600 kilometers into the sea from the mainland. These few facts may be enough to give some notion of the vast distances and also the size of the land. The land covers 3,850,000 square kilometers. That is more than fifteen times the size of Great Britain and Northern Ireland or seventeen times the area of France. But this vast area is in European terms practically empty of 161 people; for in one square kilometer taken as the general mean, there 311 are only 1.6 persons--even if estimated population of 6.3 million in 1950 is taken as a basis. That is extraordinarily sparsely settled. However, in order not to give any false notions, it must at the same time be noted that the actual distribution of people is entirely different. In the southern parts there are regions which are much more thickly settled, while in the vast areas away from the transportation lines, especially throughout the north, in areas of many square kilometers only one person is to be found.

The southern regions--Transbaykal, Amur Oblast, Maritime Krai, the greater part of Kamchatka, and also Sakhalin--are completely suitable for accepting people, even though the harsh climate brings certain hardships. But the Russians are more accustomed to bearing such conditions and better suited for overcoming them than any other European people. Thus Transbaykal and the real Far Eastern regions of the Soviet Union offer settlement opportunities with good prospects for the excess population in other /16/ sections. The population has continuously and considerably increased through immigration:

1911	1,723,754
1926	2,304,000
1939	4,039,000
1950	6,300,000

• 631 The administrative division corresponds approximately with 161 the natural provinces named in the concept "Soviet Far East" although the borders do not coincide exactly. However, in order to be able to use figures and statistics, it is necessary for practical reasons to make the administrative regions equivalent to the provinces. Unfortunately exact data for this purpose are available only for the time of the last census on January 17, 1929. These data give the following figures for the Soviet Far East: /Table on Following page/

3 [i.e. The Soviet Far East — Analyst]

631 ●
161

Administrative Unit	Size	Population
1. Buryat Mongol Autonomous Socialist Soviet Republic	331,400	542,200
2. Chita Oblast	720,000	1,159,500
Transbaykal	1,051,400	1,701,700
3. Khabarovsk Krai	2,572,000	1,430,900
4. Maritime Krai	206,600	907,200
Far Eastern Region	2,778,600	2,338,100
Total for the "Soviet Far East"	3,830,000	4,039,800

161

Under the above basic division, the following comparisons can be made. Transbaykal comprises approximately one-twentieth of the total area of the Soviet Union (1939: 21,175,208 square kilometers), but it has only a hundredth of the population. In the Far Eastern region the contrasts are still greater; for in area it has an eighth of the total, but it has only an eightieth of the population in the entire country. Therefore, even in comparison with the Soviet Union there is an extraordinary disproportion between area and population, which indicates that here are special relationships with both geographical and historical bases. These will be discussed in detail later.

631

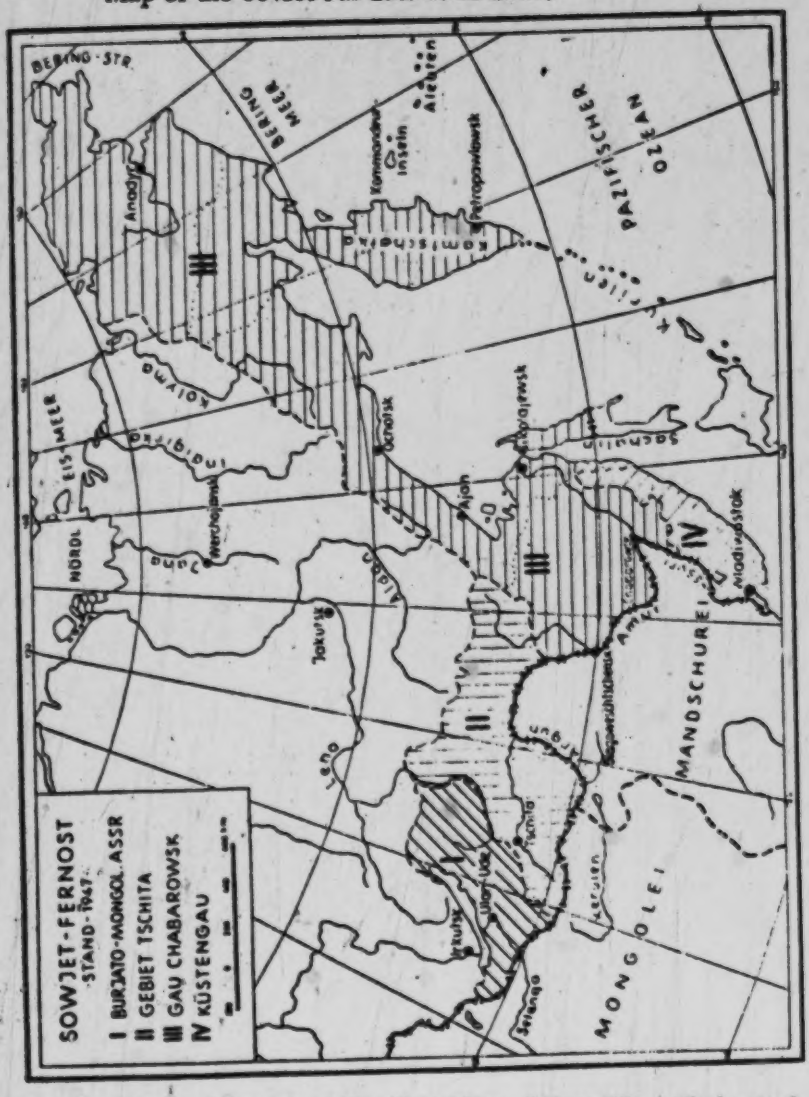
The recent past has brought a change in the administrative division. Two new administrative regions (oblast) were formed, namely Amur Oblast (1948) and Sakhalin Oblast (1947). To the first was attached a part of the old Chita Oblast and a part of Khabarovsk District (Krai). Its size is 360,100 square kilometers. Blagoveshchensk was selected as the capital of the oblast. To Sakhalin /17/ /Map of the Soviet Far East as of 1947:/ /18/ Oblast belongs the entire island (64,750 square kilometers) and the Kurils (15,600 square kilometers); the capital is Yuzhno-Sakhalinsk.

The border separating these from the other parts of the Soviet Union has, however, remained the same. Accordingly, the following administrative units belong to the Soviet Far East at present:

1. Buryat-Mongol ASSR
2. Chita Oblast

631.

Map of the Soviet Far East as of 1947:



I = Buryat-Mongol ASSR; II = Chita Oblast; III = Khabarovsk Krai; IV = Maritime Krai

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3. Khabarovsk Krai
5. Maritime Krai
6. Sakhalin Oblast

The two sketch maps inserted in the book show the old and the new administrative division. In the following presentation the old administrative units must be used as a rule in statistical information.

The new division of the administrative regions which has been made often during the period of Soviet rule, shows that the Soviet Far East is still not in its final from, neither as to population nor as to the development of its economy nor yet as to its administrative order; everything is in vital flux, everything is coming into being and becoming.

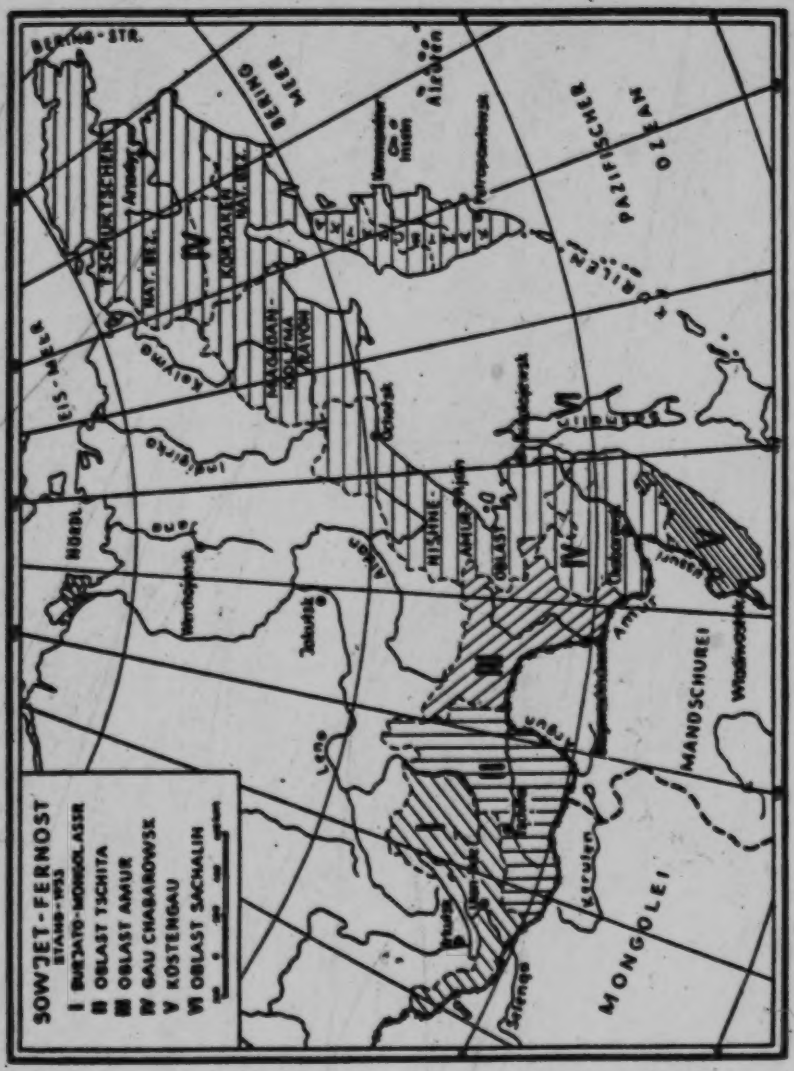
Unveiling and Occupation

175
484

The conquest of Siberia, begun in 1581 by Yermak and his Cossacks, moved forward to the east very quickly, unhampered by the sparse population. It followed the great rivers, whose watery courses served the Cossacks both as a route and as a sign-post into the vast areas never before tresspassed upon by a European. River area after river area was thus transversed by them and secured by bases remaining there. Already by 1632 the city of Yakutsk was founded in the land of the Yakut on the middle Lena, and from then on this city served as a starting point for further pressure forward. In 1638 a Cossack division of Ataman Koplov proceeded along the Aldan and its tributary the Maya. They wanted to go to the "Great Sea," which the Tungus reported to them and which the Tungus called the "lamu," the "sea." However, they went only around 100 kilometers along the Maya and then had to stop for the winter. A smaller group under the leadership of the Cossack Moskvitin advanced farther along the way. They carried their boats from the upper Maya over the watershed of the Dzhugdzhur and reached the Ul'ya, which carried them on. In 1649 these Cossacks reached the coast of the Sea of Okhotsk, being the first Europeans to do so. At the mouth of the Ul'ya, somewhat south of present day Okhotsk, Mosvitin established a base and explored the coast to the north and south and /19/ /Map of the Soviet Far East as of 1953:/ /20/ went as far as the mouth of the Uda. However, he did not find the Shantar Islands. They were discovered only in 1710. Another Cossack by the name of Shelkovnikov founded

Map of the Soviet Far East as of 1953:

631



I - Buryat-Mongol ASSR; II - Chita Oblast; III - Amur Oblast; IV - Khabarovsk Krai; V - Maritime Krai; VI - Sakhalin Oblast

115 a survey of the development and buildup of the Magadan-Kolyma area with
121 the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

[13] 2) Physical Features of Kolyma: Kolyma is that region in the
63 northeastern part of Siberia, named for the Kolyma River; the boundaries have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 Be that as it may, there is ample evidence to support the contention
631 that neither of the two above cited political divisions are tech-
471 nically correct; due to the establishment of Dalstroy (Far Eastern Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 3) Administration: The Constitution of the USSR is not formally
625 operative throughout this vast area (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

1/ [i.e., the Kolyma region of Siberia — Analyst]

•634
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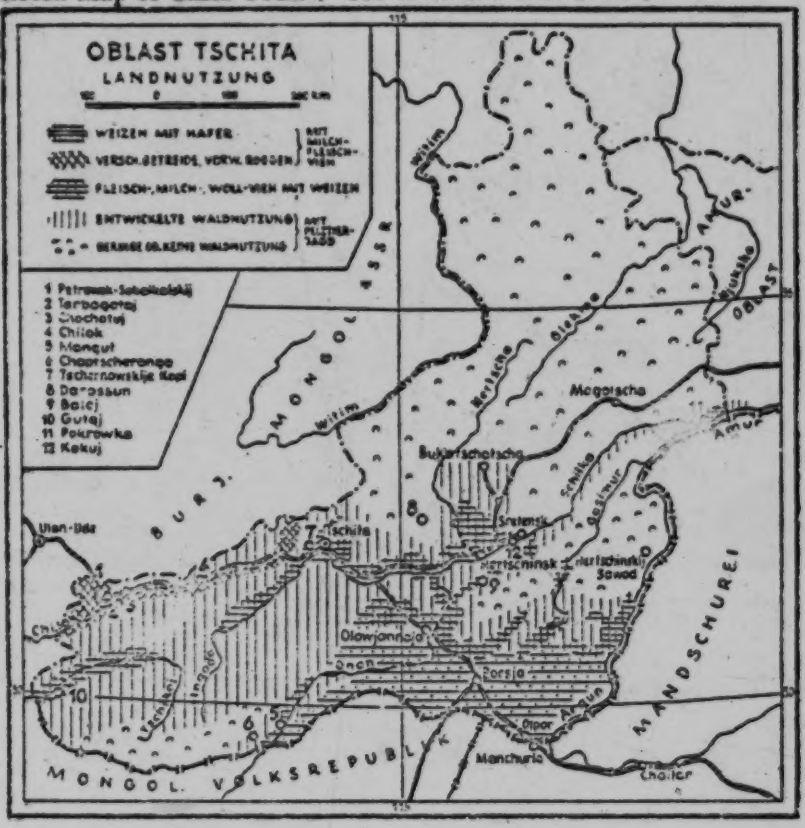
Sketch Map of Chita Oblast: Use to Which Land Is Put:



wheat with oats } with dairy and meat livestock

various grains, predominantly rye } with dairy and meat livestock

meat, dairy, and wool livestock with wheat

developed exploitation of the forests } with hunting of fur-bearing animals

slight or no exploitation of the forests } with hunting of fur-bearing animals

1. Petrovsk-Zabaykal'skiy
2. Tarbagatay
3. Khokhotuy
4. Khilok
5. Mangut
6. Khapcheranga
7. Chernovskiye Kopi
8. Darasun
9. Baley
10. Gutay
11. Pokrovka
12. Kokuy

/223/

Sketch Map of the Amur Oblast: Land Exploitation:

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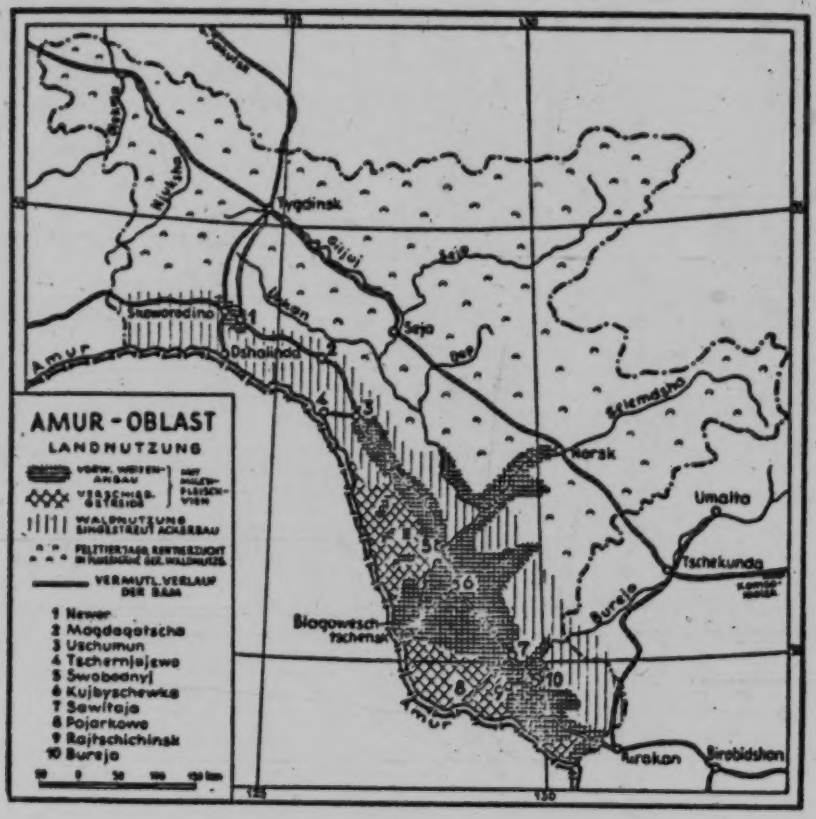
311



Predominantly cultivation of wheat } with dairy and meat livestock

Various grains }

Exploitation of the forests intermixed with scattered agriculture

Hunting of fur-bearing animals, breeding of reindeer, slight exploitation of the forests near the rivers

Presumed course of the BAM

1. Never
2. Magdagachi
3. Ushumun
4. Chernyayevo
5. Svobodnyy
6. Kuybyshevka
7. Zavitaya
8. Poyarkovo
9. Raychikhinsk
10. Bureya

18*

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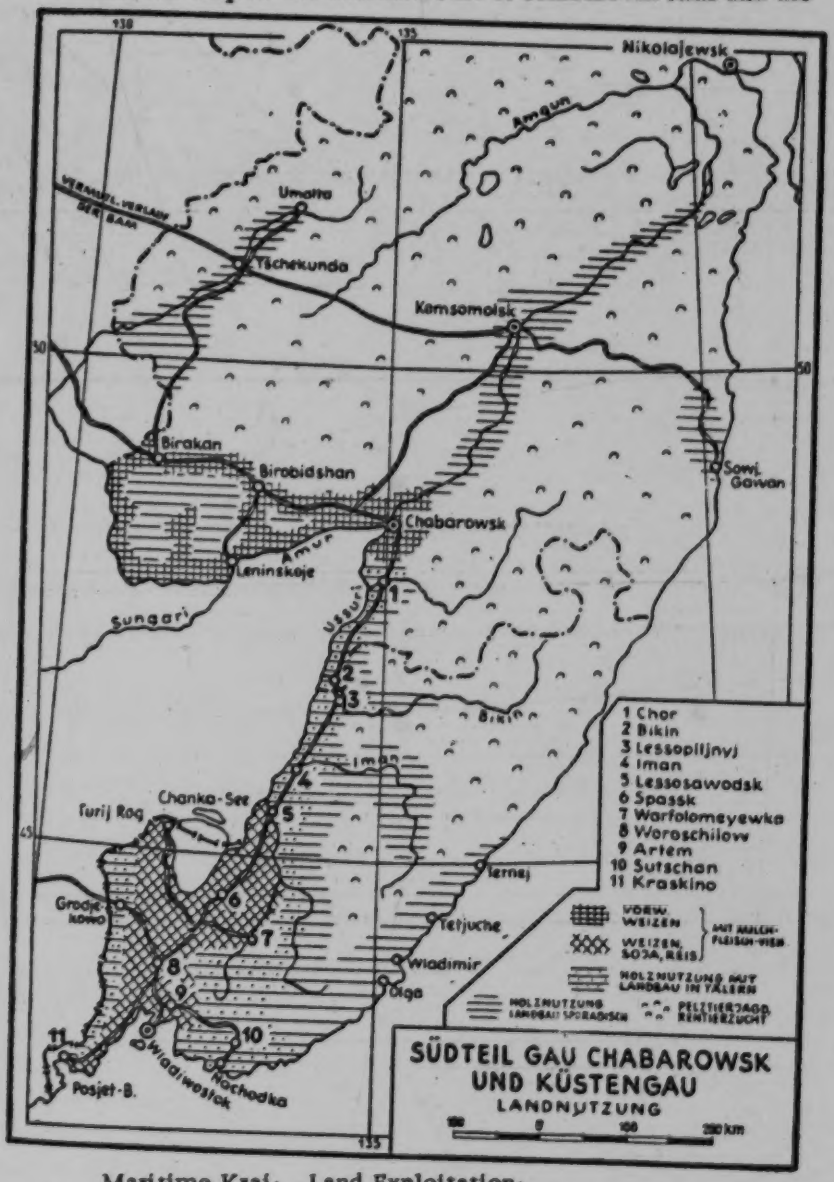
Sketch Map of the Southern Part of Khabarovsk Krai and the



Maritime Krai: Land Exploitation:

(Captions to map on following page)

634 ●
311

(Captions to Map on page 282)

1. Khor
2. Bikin
3. Lesopil'noye
4. Iman
5. Lesozavodsk
6. Spassk
7. Varfolomeyevka
8. Voroshilov
9. Artem
10. Suchan
11. Kraskino

Predominantly wheat } with dairy and meat livestock
Wheat, soy beans, rice } with dairy and meat livestock
Exploitation of wood with agriculture in the valleys
Exploitation of wood with sporadic agriculture
Hunting of fur-bearing animals, reindeer breeding

black earth regions in southern Russia have a damp spring and a dry summer. Here it is the reverse: the spring is dry; the summer, on the other hand, is very damp. 134

On the lower Bureya red earth is diffused under lightly podsolized soil. This red earth is the product of the weathering of gray Tertiary slate, and it owes its brick red color to enrichment by iron oxide. This red earth indicates that the climate of the Tertiary period must have been much warmer than it is at present. Also on the lower Amur the same Tertiary red earth has been determined. "Grapes, cork trees, and tigers are vestiges of that time when the red earth was forming, while pines, firs, and reindeers harmonize very well with the present-day formation of soil of the podsol and swamp type," says Glinka (70).

70. Glinka, K. D. O drevnikh protsessakh vyvetrivanniia v Priamurie /On the Old Weathering Processes in the Amur Region/. Pochvovedeniie, 1911.

Sketch Map of the Jewish Autonomous Oblast:

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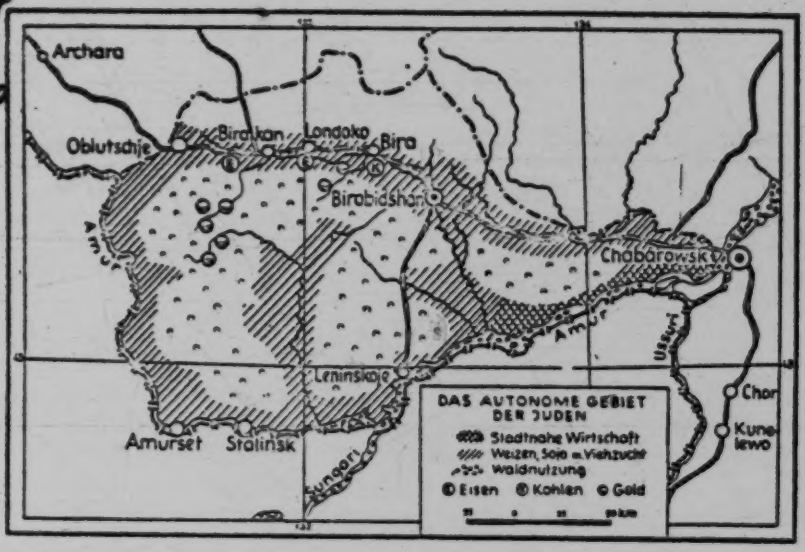
316



Economy in the Vicinity of a City
Wheat, soy beans, with livestock
Exploitation of the forests
(E) Iron
(K) Coal
Gold

climate and then also to the great masses of water which flow together here in the Amur, Sungari, and Ussuri. With the relatively low position of the plain these great masses of water permit the ground water to rise very high to the water level of the rivers. The swampiness is also fostered by the old sea deposits lying in the ground of the plain. These sea deposits mostly form a solid, impermeable layer of loam. In addition there is a further difference, which lies in the state of development of the landscape. In contrast to the thickly settled, cultivated landscape of the Zeya-Bureya plain, the Amur plain is occupied only in its southern part and here, too, only in strips--along the railroad and along the Amur. The largest part, especially the area below Khabarovsk, is only sporadically occupied by settlements, which here completely disappear in the vast natural landscape.

After the break through in the Bureya Mountain Range, where the Amur is in places compressed to a width of almost 500 meters, the river expands to a true lowland stream. The banks become low and move back, numerous islands, often of great length, occur and divide the river into very many arms. Normal widths of 2 to 5 kilometers are no longer a rarity. The Sungari, which the Amur takes in here from the right, comes far from the south of Manchuria and brings warmer water to the Amur; accordingly, the Amur below the mouth of the Sungari becomes free of ice earlier and also remains open longer. Forty-five kilometers above Khabarovsk and the real mouth of the Amur, the Amur receives the Kasakevichevsk River, the first arm of the Ussuri coming from the south.

The Khabarovsk plain spreads out opposite the mouth of the Sungari and the Ussuri. Thick layers of loam form the base here and, through their impermeability, cause the area's great inclination toward swampiness. As a consequence of this, the areas near the rivers are the least suitable for agriculture, which occurs first on the somewhat higher, better-drained land. In contrast to the Zeya-Bureya plain, therefore, vast areas here remain swampy meadow steppes in their natural state and are used as meadows or hay fields. However, dry ridges and mountain groups also appear in the middle of the Khabarovsk plain. These ridges and mountain groups consists of Paleozoic layers (carbon) and are covered with forests. Their absolute height often reaches 500 meters.

The entire area within the arc of the Amur from Pashkovo to the mouth of the Ussuri belong to the Jewish Autonomous Oblast. Northern border runs north of the railroad line. The oblast covers 36,800 square

634 kilometers, and its population numbers /255/ 108,400 (1939), of which
131 approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the
361 name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000
[299] inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire
135 Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establish-
241 ment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is in-
234 fluenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

361 Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large
[161] city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid
[39] growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking
[382] installation has been added to the older oil refinery in order to process
[508] the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there
[241] are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

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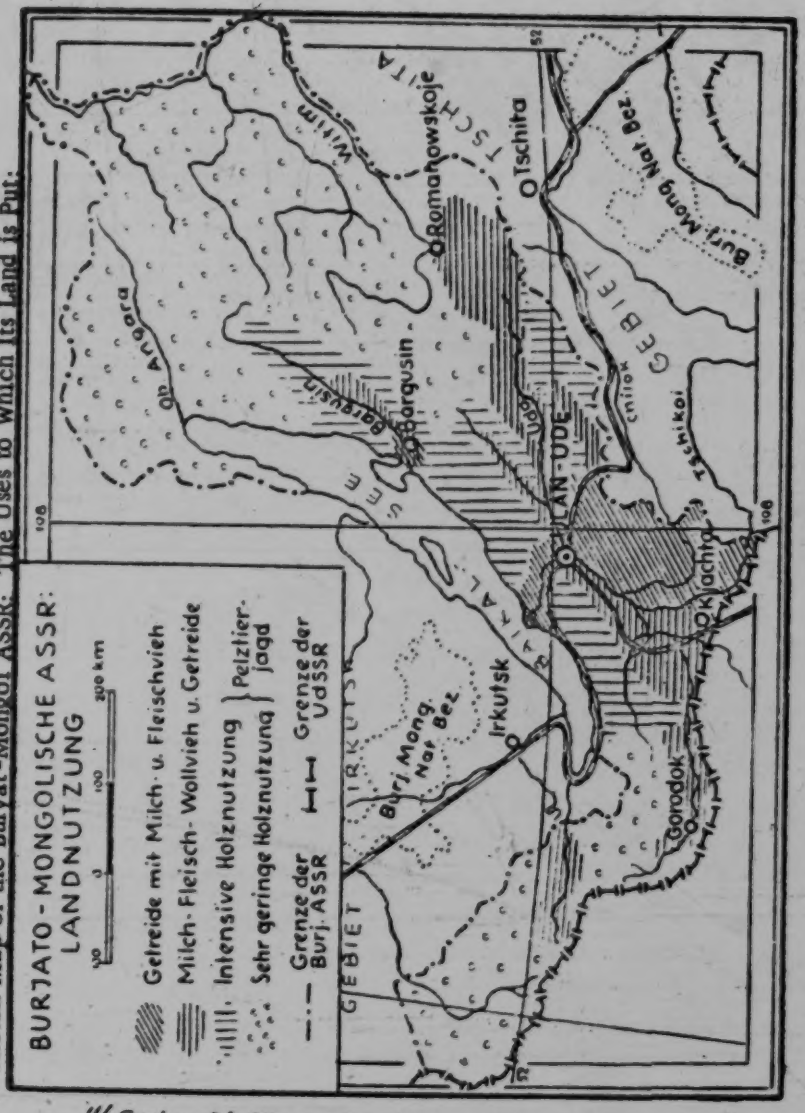
311

Sketch Map of the Buryat-Mongol ASSR: The Uses to Which Its Land is Put:



Grain with livestock used for milk and meat.
Livestock used for milk, meat, and wool; plus grain.
Intensive exploitation of wood.
Very slight exploitation of wood.
} Hunting of fur-bearing animals.
Border of the Buryat ASSR.
Border of the USSR.

/213/

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316
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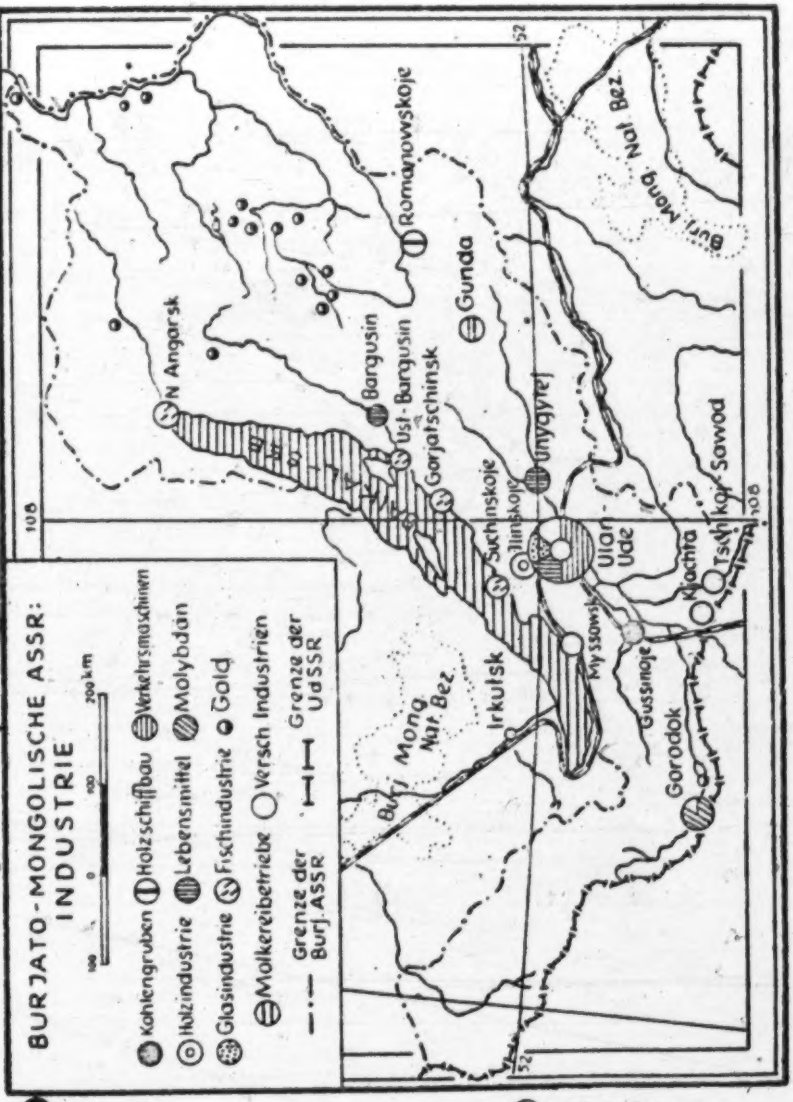
Sketch Map of the Buryat-Mongol ASSR: Industry:



- Coal Mines
- Construction of wooden ships
- Transport machinery
- Wood industry
- Groceries
- Molybdenum
- Glass industry
- Fish industry
- Gold
- Dairy plants
- Various industries

/215/

- Border of the Buryat ASSR
- Border of the USSR

willing to venture into such an inhospitable area, prisoner labor was considered to be the only solution whereby sufficient numbers of personnel would be available in Kolyma to exploit the gold resources there. It was at this time that the collectivization program was in progress in the Soviet Union, and labor was to be found in abundance in the form of those sturdy peasants, especially in the Ukraine and White Russia, who opposed the confiscation of their land into collectivized enterprises. Furthermore, previous attempts at the use of prisoner labor had been satisfactory in the construction of the Baltic-White Sea Canal. Consequently, it was decided to move large numbers of "socially hostile elements," as they were called, into the Magadan area to exploit the gold fields. 316 655

6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932: In the winter of 1931-1932 a special administrative unit was established under the name of Dalstroy, and this organization was responsible for the development of the extreme northeastern part of Siberia—the primary task was the exploitation of the gold-rich Kolyma region. It should be noted that Dalstroy was under the direct control of the GPU (later reorganized into the NKVD and again into the MVD), which immediately undertook to supply the organization with huge numbers of laborers. It might be mentioned that Dalstroy had "first pick" of all the prisoners throughout the Soviet Union; simultaneously Dalstroy procured adequate numbers of free-labor specialists, namely, engineers of all types who were to organize the actual exploitation of gold. 635 466

a. The Leadership of Berzin (1932-1937): Berzin was the head of Dalstroy during the years 1932-1937, and since he was the very first of the NKVD chiefs of the organization, his administration was filled with a terrible loss of life; this was not permitted to interfere with his mission, however.

After a preliminary examination of the situation, it was decided to establish a port on the Sea of Okhotsk and penetrate gradually inland rather than to use an overland route. The harbor of Nagayev, located close to the Ola River estuary, was selected as the primary base of operations; this harbor is at present the port which services the chief city of Magadan. (Note: This harbor is approximately 10 miles long and 3 miles wide.) In order to show the complete uninhabitability of the surrounding area near Nagayevo, the port area has been described as "surrounded by ridges of rock which overhang the water. The rocks, sometimes rising a thousand feet or more, protect the harbor, but on their open sides the winds blow unchecked. Down below where the steep cliffs meet the water, there is no land for human shelter. Above, one is blown off one's feet by the force of the wind that is cold, damp, penetrating, and unequalled in ferocity anywhere in the world."[3] Beyond the ridges surrounding the harbor there is a swamp of the type familiar to this region, under which perennial ice exists; beyond the swamps come the taiga.

In the summer of 1932 ships were dispatched from Vladivostok loaded with Dalstroy cargo, including machinery, equipment, foodstuffs, and manpower. The steamers were gifts to the NKVD by the Soviet Government, and each ship made from 12 to 15 voyages from Vladivostok that navigation season. These ships were specially constructed to hold large numbers of prisoners, and machine-guns covered every inch of the cells. No precautions were neglected to prevent the escape of prisoners in the areas where Japanese ships might rescue escapees and learn the nature of the Magadan enterprise.

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3 Ibid., p. 117.

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466

Upon arrival in Nagayevo harbor, tents were provided for the guards, while prisoners remained unsheltered in barbed-wire enclosures. The official task was to build the port and a city, which was to become Magadan. In order to give a clear picture of the actual difficulty of the operation, the following citation is quoted in full:

> "The prisoners bore the hardships and built. With bare hands they constructed piers for ocean steamers, setting up caissons weighing many tons under the steep cliffs where the sea was 12 to 15 feet deep at the water's edge. They cut broad roads through the stone, leading down to the piers. They built, in order of importance, several plants: a sawmill, a brickyard, a fish-salting factory, ship repair yards, a power station. They began draining the swamp and clearing the taiga adjacent to the spot selected for the future town, felling and uprooting trees, pulling up moss by hand, and harrowing the soil over and over to create a semblance of cultivable top soil as a measure of defense against the encroaching geological ice. They built houses for the administrative staff, which included private houses for the officials and their hired servants; for the GPU they built 'cold-resistant' barracks with double walls filled in with sawdust; they built a special small house for the police dogs which were later to play such an important role in the Kolyma penal camps. There was time and labor for everything except for building barracks for the enslaved workers themselves."[4]

At first there were no established work hours; prisoners "were compelled to work as long as they could stand on their feet; they were required to show 'enthusiasm.' The food was meager—bread, dried fish, sometimes hot soup, and twice a day a mug of hot water."[5] In addition, the fact that workers were continually wet from working in swamps or the construction of the port led to epidemics, and the death rate rose at an incredible rate; disease ultimately spread to the NKVD guards and the hired technical personnel. It was this factor which led to the decision to build barracks for the laborers. These barracks were built with only single boards for the walls, and contained only iron stoves for heat in a climate where -60 degrees in winter is common and where -90 degrees has been recorded. The prisoners were informed that these barracks were only temporary, but in 1946 these very same barracks were still in use.

Every week steamers continued to unload masses of prisoners in Nagayev harbor. These prisoners were all "long-timers" who were chosen because of their physical fitness—most were Siberian farmers, Don and Kuban Cossacks, and Ukrainian and White Russian peasants. It goes without saying that these people were selected from opponents of the collectivization program which had been completed just prior. It would have been a complete waste of time to transport any other than the above mentioned healthy people because experience was to show that only the physically strong were able to exist in Kolyma, and even many of these died within two years.

All of the above activity culminated in the erection of the present city of Magadan; however, Magadan was only to be the base of operation for the actual purpose of the administration, and the gold was in the northern areas in the interior. At this stage laborers were sent into the desolate inner regions with the mission of building roads from the gold fields to the port city; this highway was to extend from

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4 Ibid., pp. 119-120.
5 Ibid., p. 121.

Magadan to Srednikan, and then on to Seimchan. The distance by air was some 200 miles and it was planned to open this road by 1934. The project was begun in the autumn of 1932, but winter set in early, and reliable accounts have claimed that 635 466

> "Blinding snowstorms raged for weeks on end. At times, even in Magadan, walking from one house to another was almost impossible. On several occasions communication with the taiga was completely cut off, and no food could be sent to the inland camps. Since the supplies the prisoners could take with them on leaving Magadan were extremely small, famine would set in.... In addition, in the absence of barracks men had to live in tents or, more often, in brushwood huts, with the temperature at -60. In spite of the insufferable cold, the prisoners went on with their work. Even under normal taiga conditions prisoners died by the hundreds and thousands, and nearly everybody had frostbitten hands and feet. What went on in some of the winter camps must have remained a mystery to the authorities, since in some no living beings were left--neither prisoners nor guards, or even dogs. One of the valleys of the region, the Shaivinski, has since been called 'the Valley of Death.' ...a party of prisoners numbering several thousand, together with the entire convoy of guards, lost their way in the blizzard and died to a man. It used to be said in Magadan that of all those who were 'thrown' into the taiga in the first heroic year of Dalstroy, only one out of 50 to 100 came back."[6]

The Magadan-Seimchan highway proved to require more than the planned two years, and the work was not completed until 1937. In return for this accomplishment, Dalstroy and Berzin were expecting to receive generous rewards. However, upon his arrival in Moscow Berzin was caught in the vast purges of that year and was executed, having been charged with "having ties with capitalist countries, of selling gold to foreign countries, of surrounding himself with confessed or secret 'Trotskyites' as well as other oppositionists, and of planning a coup d'etat in the region and seizing all power so that he could secede from the USSR and join the United States or perhaps Japan."[7]

b. Violence under Garanin (1937-1938): The years 1937 and 1938 resulted in the purges of countless "oppositionists," and Magadan had a large turnover in personnel; many of the NKVD personnel were purged, and a new administration was ushered in with the appointment of Garanin to lead Dalstroy. 635 466 625

At this stage the population of Kolyma increased tremendously; about 100,000 prisoners were brought in annually. Most of those new prisoners were "counterrevolutionary elements"--people who had not done physical labor previously, such as scientists, artists, politicians, educators, leaders of industry, trade, among others. In 1938 the purge struck the prisoners in Kolyma when "Garanin undertook to liquidate thousands of intellectuals. Henceforth there was no more fur clothing for the prisoners. The standard equipment became wadded jackets and trousers which soon hung like torn rags.... The felt boots were replaced by shoes made of canvas.... The wretched rations of the prisoners were deficient in fats; the major component was bread."[8] However, the quantity of bread allotted to each prisoner was determined by the amount of work

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6 Ibid., p. 125.
7 Ibid., p. 131.
8 Lipper, Elinor, Eleven Years in Soviet Prison Camps (Chicago, Henry Regnery, 1951), p. 105.

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he did in accordance with the norm; since norms were set very high even for healthy peasants from the farms, intellectuals invariably failed to meet their quotas. Garanin frequently made trips throughout the various camps, seeking those who had not fulfilled their quotas--these were then shot. "This was still not enough. At night he would have thousands of enemies of the people taken out of all the Kolyma camps...and driven off to prison. This prison called Serpantinka is about 375 miles west of Magadan, in the midst of the forest, and it is probably one of the most ghastly institutions in the Soviet Union.... It was estimated that Garanin had the deaths of some 26,000 persons on his conscience.... He was finally recalled (1938)."[9]

c. Blundering of Vyshnyevetsky (1938-1941): After the arrival of Vyshnyevetsky "no change was made in the treatment, clothing, or food of the prisoners. But the summary trials and shootings of prisoners without trial ceased. The mortality among the miners remained at a constant 30%."[10] The cause of the downfall of the new head of Dalstroy was the expedition to Pyostraya Dresva Bay. In the spring of 1940 a ship was sent to that area with several thousand prisoners and some 800 free citizens on board to exploit the precious metals found to exist in that area. Inasmuch as the ship left so late, Vyshnyevetsky was warned of a possible disaster when the ice jams formed. Prisoners were shipped wearing only summer clothing and with thin shoes. At the destination prisoners began work on the construction of camps in which they were to be imprisoned. However, a hurricane destroyed all the efforts at the construction sites, and the following spring the remnants of the expedition returned to Magadan: 200 free men and 150 prisoners. Not one of the men who returned did not suffer from frostbite, and eyewitnesses in the hospital at that time claim that the survivors, to the last man, were either amputees or insane. For this enterprise Vyshnyevetsky was recalled to Moscow where he was sentenced to 15 years imprisonment; his arrest was due to the fact that 600 free men had perished in the futile effort, but no reference was ever made to the thousands of prisoners who also perished.

d. The Regime of Nishikov (1941-present?): The new chief of Dalstroy was Lieutenant General Ivan F. Nishikov, who according to the latest reports still is in command; whether the execution of his superior, Beria, affected his status is not known. According to Elinor Lipper in her book "Eleven Years in Soviet Prison Camps," the authoress, who was imprisoned in various Kolyma prison camps from 1938 to 1946, states that:

> "he is icily, mercilessly cruel. By cruelty he pushed through the fulfillment and overfulfillment of the gold plan; by cruelty he won decorations and large money bonuses. In 1942 at the age of fifty, he divorced his first wife.... He placed her and her grown son, who was a state's attorney in Magadan, aboard a ship headed for Vladivostok, and married a young communist girl of 29 named Gridassova, a primitive, crude, avaricious creature, who is only too well known to myself and to other female prisoners, for she functioned as the harsh commander of the Magadan women's camp. Thanks to her husband's position she has risen in the military hierarchy and has been decorated. She is the head of Maglag, the camp district of Magadan and the surrounding region, and rules the lives of tens of thousand of prisoners.
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> The couple's country house is located on the highway forty-five miles northwest of Magadan. It is furnished and equipped in the greatest comfort and is surrounded

9 Ibid., pp. 106-107.
10 Ibid., p. 108.

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by Nishikov's private hunting preserve. Near by, the prisoners of the invalid camp called 'Seventy-second Kilometer' work in a glass factory which is under the special protection of Gridassova and consequently always registers a marvelous production record. During the War burnt-out electric bulbs were repaired there, since new bulbs were almost unobtainable and even tiny bulbs were sold at a hundred and fifty rubles."[11]

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7) The Kolyma Buildup (1932-1946): As has been indicated earlier, Magadan and the entire Kolyma area were almost uninhabited in 1932 when the expedition under Berzin reached Nagayevo port; however, although at a fantastic cost in human lives, remarkable development of the Kolyma area was made. As early as 1946 it was clearly known that Dalstroy's extensive and many-sided activities were coordinated in a system of administrative organizations, each of which deals with a specific section of the region's economy—the centers of all these organizations are located in Magadan. At that time the following were known to exist: administrations of supplies, fish industry, coal, wood manufacturing industry, road building, agriculture, motor transport, and a few others. Essentially these administrations have the same task—they must insure uninterrupted operation and success in the chief industry of the region—gold mining, and with this ultimate goal in mind, they must supply all necessary materials and products. The ideal situation, as desired by Dalstroy and no doubt by Moscow as well, seems to be for Magadan to be completely self-sufficient and to turn over to the state all gold mined. As far as the fishing industry is concerned, it is known that fish is exported from Kolyma to Vladivostok. Attempts have been made to extract oil locally to supply motor transport in the region; however, there has been little success in this project although the presence of oil deposits in the area has been definitely established.

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Road construction was one of the primary tasks upon the initial efforts in Kolyma; just before World War II, another spurt in road building occurred. In 1939 the administration of road building was split into two independent organizations, one for the south and one for the north. By that time, the trunk highway from Magadan to Seimchan was being extended in the direction of the newer gold fields on the upper Indigirka River, and a number of side roads were also constructed to connect the main gold fields on the upper Kolyma River with the highway. Altogether, according to the best estimates, there were approximately 901 kilometers of paved roads in actual use at that time. However, this was inadequate, and in 1939-1940 a new plan of extensive road building was drawn up covering the construction of new roads in the extreme north, at the Kolyma estuary, and in the south, on the upper Kolyma, in the so-called "old" gold mining districts. In addition to new tributary roads, work was started in 1939 on the construction of a second motor highway from Dresva Bay on the Sea of Okhotsk to the gold-mining territory on the upper Kolyma. Even far more reaching were the plans for road construction east of the Kolyma estuary, in the tundra of the Arctic coastal region, down to the Bering Strait, where geological exploration had discovered gold fields of exception richness, perhaps exceeding those of the upper Kolyma. There have been no exact data concerning these plans; understandably, the information coming from the deep interior of the Kolyma region is generally far more scant than that coming from Magadan. However, at the beginning of the Russo-German War in 1941, all these plans for road construction were curtailed for obvious reasons. As has been indicated earlier, practically all construction activities were halted and many short-term prisoners were even sent back to European Russia where they served actively in the defense of the Soviet Union. In connection with the construction of roads just prior to the German

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11 Ibid., pp. 110-111.

115 121 a survey of the development and buildup of the Magadan-Kolyma area with the intention of serving as an introduction to subsequent reports on current activities in the Kolyma region.

[134] 63 2) Physical Features of Kolyma: Kolyma is that region in the northeastern part of Siberia, named for the Kolyma River; the boundaries have never been made public, but it is generally considered correct to state that the entire administrative entity is bordered on the north by the Arctic Ocean, on the east by the Sea of Okhotsk, and on the south and west by the impenetrable forests of the taiga. In the early 1930's the territory consisted only of the districts of the gold fields on the upper Kolyma and the highway which was being constructed to connect the gold fields with the coast of the Sea of Okhotsk (Magadan-Srednikan-Seimchan Highway). With the passage of time other areas were added to the territory; some claim that at present the entire region encompasses not only the Kolyma area and that part bordering on the Sea of Okhotsk but also the regions along the Yana and Indigirka Rivers in addition to the whole of the Chukotsk region and Kamchatka.

Another estimate of the geographical boundaries of the territory claims that the entire Soviet Far East is under the jurisdiction of Khabarovsk Krai (a "krai" is a political subdivision), which in turn contains the following component parts: The Jewish Autonomous Oblast, Lower Amur Oblast, and Kamchatka Oblast (This last Oblast is claimed to comprise Chukchi and Koryak national okrugs; in addition, there are supposedly two distinct areas of oblast size within the Krai: One centered at Khabarovsk and the other at Magadan in the Kolyma territory, in which the constituent rayons come under the direct jurisdiction of the Khabarovsk Krai administration.

625 631 471 Be that as it may, there is ample evidence to support the contention that neither of the two above cited political divisions are technically correct; due to the establishment of Dalstroy (Far Eastern Construction Administration) in 1931-1932, it may be stated with considerable justification that the jurisdiction of Dalstroy extends over all northeast Siberia at the present time, taking in all the land east of the Lena River and north of the River Aldan. If this is the case, the total area is approximately six times that of metropolitan France or some 1,400,000 square miles.

In other words, it is quite clear that the exact geographical boundaries of the region are not known, but it may be at least assumed that Dalstroy, which is an organ of the MVD, has complete control of at least the Kolyma region and most likely the northern areas of Chukchi and Koryak. That the MVD under the name of Dalstroy is in control of large tracts of territory is a proven fact, but the territorial limitations of this organization are not clear.

642 625 3) Administration: The Constitution of the USSR is not formally operative throughout this vast area[1] (equal to approximately 40% of the United States proper), and the usual authority of regional Soviet agencies does not apply. There are no local Soviets in the territory, nor do elections occur with the exception of those for the Supreme Soviet. However, even in this instance, it is worthy of note that the Kolyma representative in the Soviet of Nationalities is Lieutenant General Nishikov of the MVD, chief of Dalstroy. The widespread area and activities under the Dalstroy administration have resulted in an organization where the economic life of the region is combined with legislative, judicial, administrative, and police functions. In the general structure of governmental authority in the USSR, Dalstroy occupies a unique position; it is beyond all doubt an organ of the MVD, and its official name is "Dalstroy MVD." In the organization of the MVD, Dalstroy comes under the authority of one of the Deputy Ministers.

1/ [i.e., the Kolyma region of Siberia — Analyst]

however, the NVD appoints the head of Dalstroy, leaving to him the selection of his assistants. Authority is held and exercised solely by Dalstroy, and everybody who represents this authority is appointed by the head of the organization or his assistants acting as his agents. Every inhabited place has a "commandant" who has authority over the territory under his control. Under Dalstroy rules this commandant has the right to inflict the death penalty on all prisoners. 625 642

A somewhat different status is accorded to the remnants of the native tribes which form so-called "national districts." They enjoy various privileges and are given assistance by the Soviet Government; however, it should be noted that these privileges and assistance can be considered as such only in comparison with the position of the prisoners. These local tribes number only a few thousand, and even in their national districts they have no real authority to govern themselves. [563]

4) Population: The population of the region[1] is not accurately known, primarily due to the continual turnover of prisoners who are imported by the hundreds of thousands yearly and who die at almost the same rate. Before the discovery of gold and the creation of Dalstroy, the local population could hardly have exceeded 25,000 to 30,000; according to the census of 1926-1927 the population of the Kolyma region was 7,580. It is very unlikely that the number of aborigines has materially increased under the rule of Dalstroy; in fact, during the first period of the Revolution the native population showed a marked tendency to decrease. 161

However, the total population of the Kolyma region during the Dalstroy administration has grown fantastically, and the only explanation is the importation of prisoner labor. The exact number of prisoners cannot be determined for obvious reasons; however, according to a report by a Soviet seaman who formerly served on ships running between Vladivostok and Magadan the entire Kolyma region is 505 466

> "a single concentration camp. Into it have been thrown huge masses of the repressed. How many of them he cannot say exactly.... In his opinion it may be calculated with considerable accuracy that during the years 1937 to 1940 not less than a million and a half persons were brought on steamers from Vladivostok to Magadan; during each navigation season from April to November four Dalstroy steamers (Felix Dzherzhinskiy, Dalstroy, Soviatsia, and Dzhurma) were in operation, each making from 12 to 15 voyages in the course of the summer and bringing from 6,000 to 9,000 persons on each voyage."[1]

(Note: Radio Magadan in a report on 24 October 1955 stated that "Nagayevo port vessels -[Nagayevo is the port servicing Magadan]- have fulfilled their annual cargo delivery plan 105.8%...the seagoing vessels of the Nagayevo maritime port overfulfilled their 8 month cargo delivery plan but failed to fulfill their 9 month plan. The leading place among seagoing vessels is being held by the steamship 'Felix Dzherzhinskiy.' Good results were also achieved by the steamship 'Dzhurma' which is on its way from Nakhodka to the Kresta Bay carrying vegetables, foodstuffs, manufactured goods, fruits, construction and technical materials, and equipment." The interesting feature of this report is the fact that the steamships "Felix Dzherzhinskiy" and "Dzhurma" which were definitely known to be transporting laborers in 1940 are still plying the same route and very likely are carrying the same "freight" because the hulls of these two ships are known to be constructed to carry prisoners, not freight as stated.)

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1 Dallin, David J., Forced Labor in Soviet Russia (New Haven, Yale University Press, 1947), pp. 136-137 [i.e., Kolyma - ANALYST]

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

Komitet'). The Tribal Committees of the lower order were later described as 'Native Soviets' ('Tuzsovety') of which there were 400 all over the Far East and Far North. The most remarkable fact about this tribal administration was that participation in tribal and native Soviets was not limited by class criteria.

This idyllic state of affairs could not last long. From one plenary meeting of the Committee of the North to the next the intransigence of its more radically minded members increased. In 1929 the Committee firmly decided to apply the principles of class struggle to the Far North, and from 1930 onwards, the tribal administration was abandoned. Regular organs of local government ranging from village Soviets to 'National Areas' ('Okrugs') were created instead. This meant in fact the end of the 'native reserves' which the Russian anthropologists had advocated in the early years of the Soviet régime. Under the new set-up Russian and other European Party and State officials were able to increase their influence in the running of native affairs. The natives were linked politically and administratively as closely as possible with the metropolitan territories of the U.S.S.R. In 1935, the Committee of the North itself was disbanded.

By the time of its abolition the Committee had lost a great deal of its previous importance. Many of its original duties had been taken over either by the Chief Administration of the Northern Sea Route, 'Glavsevmorput', or by local government organs. The Chief Administration of the Northern Sea Route, which had at its disposal a large staff of experts on nationalities problems, was originally launched as a body with extremely wide powers. Among other things, it was supposed to look after the well-being of the Far Northern tribes, direct cultural work among them, organize health services and help to promote their 'sovietization'. In the autumn of 1938 the Soviet Government decided that 'Glavsevmorput' could not carry out these tasks properly. A decree of the Council of People's Commissars stipulated that it was to hand over to the territorial administrations all enterprises and institutions which were not directly connected with the development of the Northern Sea Route.[2]

COMMUNIST ADMINISTRATORS

The abolition of the Committee of the North in 1935, and the curtailing of the powers of the 'Glavsevmorput' in 1938, increased the responsibilities of the administrative authorities and party organizations of Khabarovsk. It cannot be said that the latter have shown great enthusiasm for work in the National Areas and National Districts of the small nationalities. In fact, up to 1939 most of the officials posted to distant parts of the Far Eastern (later Khabarovsk) Territory went

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there as a punishment. People who were an embarrassment to the authorities, for one reason or another, were frequently sent to the Arctic regions as administrators and Party secretaries. Most cases of abuse of which such ill-suited administrators had been guilty in distant territories were hushed up, but occasionally they became public, as in the case of the Soviet Commander of the Wrangel Island,* which is part of the Chukcha National Area, and situated off its Arctic coast.

The commander, whose name was Semenchuk, had committed the most outrageous arbitrary acts against both Chukchi and Eskimos, the native population of the island. He and his assistant, Startsev, had caused the death of a number of natives, but the Wrangel Island scandal would probably not have come to light had they not also assassinated the local Russian doctor. The two Soviet administrators were brought to Moscow as defendants in a big trial in which Vyshinsky himself acted as prosecutor. A sixty-five page Vyshinsky speech contains an exhaustive description of the Semenchuk régime on Wrangel Island. Semenchuk's authoritarian idea of the role of a Soviet administrator in the land of the Chukchi and Eskimos was summarised in the following pronouncement which he had made. 'I am the GPU here; I am the court, I am the Public Prosecutor. I have the power of life and death.'

Semenchuk and Startsev were sentenced to death and executed in 1936, but it is still a mystery how the Soviet Government could entrust the strategically important Wrangel Island to an outright criminal. Semenchuk had been in prison for the theft of silver cutlery from the Soviet Embassy in Teheran shortly before being dispatched to the Far North.[3]

The case of Semenchuk and Startsev is obviously an extreme one. There is no reason to doubt that some of the administrators are ardent idealists, determined to improve living conditions and promote education among the local peoples. If we can believe the Secretary of the Department of Cadres of the Khabarovsk Territorial Committee of the Communist Party, there has been a better selection of administrators for the distant areas of the Far East since 1939. The secretary in question had promised in that year that Party posts in these territories would be given in future only to particularly trustworthy persons. He had said,

* Russian sovereignty over Wrangel Island was established only with some difficulty Both Canada and the United States had striven to attach the island which has an area of 2,700 square miles to their respective territories. The Canadians established their claim by wintering on the island from 1921. They reasserted it by hoisting the flag there in 1921, and in 1922 the Canadian Prime Minister solemnly proclaimed the annexation of the island in a statement before the Ottawa Parliament. The Soviet régime can rightly claim to have rescued Wrangel Island for Russia. In 1924 the crew of the Soviet gunboat 'Red October' took it over and expelled the only Canadian who lived there, together with a group of 'anti-Soviet' Eskimos, who, they asserted, were engaged in illegal hunting of fur animals. The Soviet authorities then brought their own colonists from the mainland, mostly Chukchi and Eskimos, with a few Russians.

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indeed, 'The further away we send a man, the more we must be able to trust him'.[4] It can be taken for granted that a man whom the Communist Party considers particularly trustworthy will be a hard-working official, and that he will not commit any crimes such as those of which Semenchuk and Startsev had been convicted. But a trustworthy communist is not necessarily a man who understands the mentality of the Far Eastern aborigines, and who deals with their problems in the best way.

NATIVES, STATE TRUSTS AND FORCED LABOUR

In addition to the Party and the territorial administration, there is a third influential factor in the Far East which has a great impact on the 'natives', namely the big State capitalist organizations of Kamchatka, Chukotka and the territories around the Okhotsk Sea. Instead of assisting and strengthening native economy the Soviet régime encouraged the growth of State companies such as the 'Kamchatka Limited Company' (later known as 'Glavkamchatrybprom' – Kamchatka Chief Administration for the Fishing Industry), the 'State Reindeer Trust', the 'Dalrybtrest' (Far Eastern Fishing Trust) and 'Soyuzpushnina', the State organization for fur trading. Soviet experts on the Far East themselves have admitted that these enterprises employed people who were guided by a 'narrow-minded business attitude' and who discharged their duties in a 'crudely materialistic way'. All they wanted was to fulfil the target figures of the state plan. They were not interested in assisting the natives either by supplying the most essential food commodities or by encouraging cultural work. The enterprises concerned, in particular the Kamchatka Company and the Reindeer Trust, seized land, and hunting and fishing grounds traditionally belonging to the natives. Even land owned by newly established collective farms of reindeer-breeders was arbitrarily confiscated by State trusts.[5]

Another State enterprise, the previously mentioned 'Dalstroy', which operates around the Okhotsk Sea, has also greatly affected the life of the 'natives' who live in its territory. The first director of Dalstroy, E. Berzin, pointed out in 1936 that the trust had opened schools and hospitals in all centres of the native population. The budget of the native communities ('National Districts') had increased almost ten times during five years.[6] What Berzin did not say was that the native schools and hospitals had been built with the profits which Dalstroy had made by exploiting forced labour. As a matter of fact, some of the schools of which Berzin boasted are 'mixed schools', which are attended both by natives and by children of convicts who were born in captivity and taken away from their mothers.[7] In the area controlled by the Dalstroy we thus meet the most sinister aspect of the 'Soviet nationalities policy', namely, its

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I

THE RUSSIANS OF THE SOVIET FAR EAST

Outwardly there is no great difference between the Russian Far East and the rest of the Soviet Russian Empire. The Communist Party seems to rule in Vladivostok and Khabarovsk as firmly as in Moscow and Leningrad. Nevertheless, the Russian Far East has an individuality of its own and has its special problems. Vladivostok lies as far away from Moscow as London does from Winnipeg, Capetown or Calcutta. Such a gigantic distance must have political consequences even in an autocratic or totalitarian state. In territories where Russia borders on China, Korea, Japan and the United States, the outlook of the local Russian inhabitants is bound to differ from that prevailing on the banks of the Don or the Volga. Geographical circumstances force the Russians of Vladivostok, Blagoveshchensk or Khabarovsk to feel themselves 'Far Easterners' ('Dalnevostochniki'), pioneers who have a special political and historic mission, incomparably more complicated than the tasks confronting the population of Central or Western Russia.

In Czarist Russia it was generally understood that the Far East was a 'special case'. Until Russia suffered defeat in the war against Japan in 1905 she looked upon her Far East as a base for the conquest of wide Asiatic territories – Manchuria, Korea, China and Tibet. There seemed to be no limit to her imperialistic ambitions. Japan's victory completely changed this situation. Russian expansion in the Far East met with a serious setback, and many Russians even doubted whether Vladivostok and other Far Eastern possessions of the Czarist Empire could be held for any length of time. Russia, it is true, was connected with the Pacific coastal areas by the Trans-Siberian Railway, but there was widespread fear that this link might not prove solid enough. In 1909 the well-known liberal monthly journal of St. Petersburg, *Vestnik Evropy*, warned the government that the Russian Far East might act towards Russia in the same way as New England had acted towards the English crown. The separation of the Pacific possessions from the Russian Empire appeared as a real danger which could be averted only by a policy of concessions and economic privileges. The writer of the article in *Vestnik Evropy* reminded his readers that the revolt of Britain's former North American colonies occurred over a question of customs

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● 648 duties and that this should be a lesson to Russia in dealing with her distant Far Eastern colonies.[1] A democratic and liberal Russia might well have granted special rights to the Russian Far East and perpetuated the freedom of customs duties which the ports of Vladivostok and Nikolayevsk enjoyed at the beginning of the century.* The Russian Far East might have achieved, within the Russian Empire, something approaching a dominion status. The democratic régime which was ready to open Russia's windows into the world collapsed in 1917 after only a few months' existence. But even the Soviet régime, which succeeded it, could not escape from the geographical peculiarities of the Far East and from the special mentality of the Russian 'Far Easterners'.

I. THE POLITICAL FRAMEWORK

THE FAR EASTERN REPUBLIC

635 642 In the early years of Soviet rule the special communist approach towards the Russian Far East found expression in the establishment of the 'Far Eastern Republic' (F.E.R.). This buffer state was set up by a decision of the Central Committee of the All-Russian Communist Party. The Republic was to appeal to the patriotism and to the anti-Japanese animosities of the Far Eastern Russians, but not to their sympathies for an international communism. It was to have a 'bourgeois democratic character'. Its constitution did not include any provisions about the setting-up of Soviets, but provided for a National Assembly to be elected by universal direct and secret ballot. The national flag of the Republic was red and blue and its coat of arms discarded the communist symbols, hammer and sickle. Instead, it showed an anchor and a pickaxe crossed over a wheat-sheaf. There were no 'People's Commissars' in the Far Eastern Republic, only ministers, and there was no 'Red Army', only a 'Revolutionary People's Army'.

186 Although the F.E.R. was founded by the Kremlin for mere tactical reasons some of its leaders took it very seriously and they wanted to transform the Republic into a living political reality. They demanded that the F.E.R., which reached in the west as far as Lake Baikal, should extend its territory to the Yenisey River, and they also pleaded for greater independence from Moscow than the Bolshevik Central Committee was willing to grant. Some quarters of the F.E.R. even toyed with

* Complete freedom from customs duties existed in the Russian Far East between 1862 and 1888. In 1888 customs duties were introduced for sugar, matches and kerosene and after 1901 duty had to be paid on industrial articles but not on agricultural produce (except for flour) nor on capital goods. Only Sakhalin and Kamchatka remained exempt. To attract more settlers freedom from customs duties was restored in 1904, but was finally abolished again in 1909.

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even where the N.K.V.D.-M.V.D. has no direct economic power it is the decisive political force, above all, in border areas like the Maritime Territory of the Soviet Far East.

There are indications, however, that the police ministry has encountered certain difficulties among the Far Eastern Russians during the war and post-war period. Conditions were certainly favourable to a re-emergence of that Far Eastern regionalism which Soviet power has tried so hard to eliminate. The people of Vladivostok, in particular, must have felt once more that the natural destiny of their city was that of a window into the world. They saw the many American lend-lease shipments arriving in their harbour and were bound to draw certain conclusions about the desirability of international trade and Soviet-American co-operation. More than people in other parts of the Soviet Union must the Russian inhabitants of the Pacific coastal areas have resented the policy of rigid isolationism which the Soviet Government has pursued particularly since 1947.

This frame of mind of the 'Far Easterners' makes it understandable that the very existence of an American consulate in Vladivostok was a matter of concern to the Soviet Government. The building of the consulate was put under constant supervision and for long periods it was floodlit at night. In 1948, the Soviet Government used a flimsy pretext to demand from the United States that they should withdraw their consular personnel from the Pacific port. The measure had little importance for the Americans as the activities of the four American consular officials were extremely limited, but it had a certain symbolic significance. The closing down of the consulate was a way of telling the people of Vladivostok that their hopes of their city becoming a link between Russia and the West were once more doomed. Some years later the charge was made that the consulate had been the centre of a spy-ring. This accusation was first put forward in the short story *In a Seaside Town* ('V Primorskom Gorode') which the popular Soviet illustrated *Ogonyok* published in 1950. In the daily press the 'plot' was mentioned for the first time on February 8th, 1953, when *Izvestiya* wrote : 'In 1947, the organs of the state security service liquidated a spy-nest organized by the assistant naval attaché at the American consulate general of Vladivostok, Richard'. *Izvestiya* produced no further details nor any evidence to support its disclosure which it simply quoted from a book *The Secret Weapon of the Doomed*. This latter work had come out under the auspices of the Komsomol organization. The absurdity of the Vladivostok spy story does not preclude the possibility that many Russian Far Easterners in the late 'forties' and early 'fifties' were persecuted for pro-Western sentiments just as others had been victimized for alleged pro-Japanese leanings in the late 'thirties.'

The particular sensitiveness which the Soviet authorities have shown

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

647 665 there as a punishment. People who were an embarrassment to the authorities, for one reason or another, were frequently sent to the Arctic regions as administrators and Party secretaries. Most cases of abuse of which such ill-suited administrators had been guilty in distant territories were hushed up, but occasionally they became public, as in the case of the Soviet Commander of the Wrangel Island,* which is part of the Chukcha National Area, and situated off its Arctic coast.

The commander, whose name was Semenchuk, had committed the most outrageous arbitrary acts against both Chukchi and Eskimos, the native population of the island. He and his assistant, Startsev, had caused the death of a number of natives, but the Wrangel Island scandal would probably not have come to light had they not also assassinated the local Russian doctor. The two Soviet administrators were brought to Moscow as defendants in a big trial in which Vyshinsky himself acted as prosecutor. A sixty-five page Vyshinsky speech contains an exhaustive description of the Semenchuk régime on Wrangel Island. Semenchuk's authoritarian idea of the role of a Soviet administrator in the land of the Chukchi and Eskimos was summarised in the following pronouncement which he had made. 'I am the GPU here; I am the court, I am the Public Prosecutor. I have the power of life and death.'

Semenchuk and Startsev were sentenced to death and executed in 1936, but it is still a mystery how the Soviet Government could entrust the strategically important Wrangel Island to an outright criminal. Semenchuk had been in prison for the theft of silver cutlery from the Soviet Embassy in Teheran shortly before being dispatched to the Far North.[3]

The case of Semenchuk and Startsev is obviously an extreme one. There is no reason to doubt that some of the administrators are ardent idealists, determined to improve living conditions and promote education among the local peoples. If we can believe the Secretary of the Department of Cadres of the Khabarovsk Territorial Committee of the Communist Party, there has been a better selection of administrators for the distant areas of the Far East since 1939. The secretary in question had promised in that year that Party posts in these territories would be given in future only to particularly trustworthy persons. He had said,

● 418 167 * Russian sovereignty over Wrangel Island was established only with some difficulty Both Canada and the United States had striven to attach the island which has an area of 2,700 square miles to their respective territories. The Canadians established their claim by wintering on the island from 1921. They reasserted it by hoisting the flag there in 1921, and in 1922 the Canadian Prime Minister solemnly proclaimed the annexation of the island in a statement before the Ottawa Parliament. The Soviet régime can rightly claim to have rescued Wrangel Island for Russia. In 1924 the crew of the Soviet gunboat 'Red October' took it over and expelled the only Canadian who lived there, together with a group of 'anti-Soviet' Eskimos, who, they asserted, were engaged in illegal hunting of fur animals. The Soviet authorities then brought their own colonists from the mainland, mostly Chukchi and Eskimos, with a few Russians.

1: Kolarz J-4 (no date) 1954 RRI Siberia
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FAR EASTERN ABORIGINES AND SOVIET FOREIGN POLICY

Destiny has placed the Far Eastern natives into politically and strategically important regions, the mouth of the Amur, the Russian islands of the North-west Pacific, and the territory bordering the Behring Strait. Consequently, the nationalities concerned can only too easily be dragged into the struggle of the big powers for the Pacific. In fact, they have already played their modest part in world politics, and may do so in future. The Nanai, Udege and Nivkhi have participated in Russian-Chinese rivalries. The Udege, Nanai and Ainu have stood between the lines in Russian-Japanese conflicts. The Chukchi, Aleuts and Asiatic Eskimos are involved in the American-Russian antagonism.

The Soviet régime has always been aware of the special position of the small Far Eastern nationalities, and has framed its propaganda accordingly. It has presented itself to the peoples concerned as their saviour rescuing them from 'Chinese merchant capitalism' or from 'Japanese militarism' or from 'American robbery'. The aim of Soviet 'native policy' in the Far East is thus to make the local nationalities anti-Chinese, anti-Japanese or anti-American, as the case may be, and to instil in them a feeling of gratitude towards Russia and the Russians.

Not everything which Russian propagandists tell the natives about other nations is necessarily untrue. It is a fact that Chinese merchants were, for a long time, almost sovereign rulers in the interior of the Russian Pacific province, and exerted a tyrannical overlordship over the aborigines. In some cases the aborigines were reduced to outright serfdom. But even Russian sources have had to admit that the Chinese were interested not merely in profits, but also in spreading their culture. In the absence of any major Russian cultural activities the Chinese ran schools for the aborigines. The latter studied Chinese history, and grew familiar with Chinese institutions. Russia and things Russian were either ignored altogether, or represented in a distorted light.[36] Some of the aborigines completely abandoned their mother tongue, and adopted the Chinese language. The Soviet régime brought about a complete change. It ended the economic exploitation of the natives by Chinese merchants and stopped Chinese cultural propaganda. Cultural domination passed into the hands of the Russians. From a Russian nationalist point of view this was undoubtedly a great success, but whether it is preferable for a Far Eastern people to accept Russian or Chinese civilization is a matter of opinion.

THE NANAI

The most important nationality which the Soviet régime has claimed to have rescued from the Chinese are the Nanai. They are the largest single

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167 All these bases were officially under the Moscow government. Khabarov, who was called to Moscow to give a report, received the title of Boyar. His successor, Stepanov, continued systematically the exploration and taking possession of the land so that by 1681 Russia, for all practical purposes, ruled not only the Amur but also the area around the lower course of the Sungari and Ussuri. The first voivode in Albasin /today: Khabarovsk?/ was Tolbusin. But the behavior of the Russians toward the natives was anything but wooing. Violence and extortions practiced on the natives aroused animosity and led to uprisings, and in the end to battles with the Chinese. As a consequence in the eighties of the seventeenth century all settlements in the entire region were destroyed and most of the Russians were killed. Even Albasin /today: Khabarovsk?/, which had developed into the center of Russian power in the Amur area by continually drawing people in, was captured and destroyed by Manchurian troops in 1684. However, after their withdrawal the Cossacks rebuilt the city and began anew to till their fields. The rapacious border warfare recommenced. Thereupon /25/ a Chinese army with 8,000 men and 40 guns appeared before Albasin /today: Khabarovsk?/ in 1687, while there were only 736 Russians within the city. The Russians, however, succeeded in withstanding all attacks even though at the end only 66 men remained. The others had been killed or had fallen victim to scurvy.

●[64R] In order to bring an end to these bloody and inexorable border fights, which had taken on the character of a mutual war of extermination, Russia and China resolved on a treaty which was laid down in Nerchinsk on September 7, 1689. The area west of the Argun was promised to Russia, and Russia pledged to withdraw all Russian settlers from the eastern side of the Argun to the western side. The river area of the real Amur was to remain in China's hands. A left Amur tributary, the Gorbitsa, was laid down as the western border, while the watershed between the Lena and the Amur was determined as the northern border: this watershed in the main runs along the ridge of Stanovoy. All Russian settlers in the Amur country had to leave; Albasin was razed and given up.

After the Nerchinsk Treaty the colonization of Transbaykal began. For the protection of the border the Transbaykal Cossack army was drawn up and settled in numerous stations on the Argun, where the Cossacks led an unconstrained border life--half peasant, half soldier. They soon got along well with the Buryat, who had set up

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484 conduct against the explorers recognized by the authorities, and he found support from the new Russian governor for East Siberia, Muraviev, who later was made a count and received the honorary name of Amurskii. Muraviev got him command of a small ship, with which Nevelskii headed for the Far East from Kronstadt and in 1849 began his explorations, even before he had received permission to do so. He determined that the connection to the north between the sea and the Amur Gulf could be traversed at all times by ocean-going vessels with a depth of up to 4 meters, and that Sakhalin was an island, and that accordingly during the warm seasons ocean-going vessels with a depth of up to 5.50 meters could get unhampered to the mouth of the Amur from the Sea of Japan through Tatarskiy Proliv /sound/. This news caused a sensation in Petersburg and awakened anew the greatest interest in the Far East both among the state leaders and among the public. In the meantime explorers such as Middendorff, among others, and later also Nevelskii himself reported that the area east of the Lesser Khingan and of the Ussuri had, for all practical purposes, never been brought under Chinese administration and that it was, therefore, in fact free. Thereupon Muraviev took possession of this area and also the Amur country. All of these events are reported in detail, but from the Chinese point of view, by Aitchen K. Wu in his work appearing in 1950, "China and the Soviet Union" (231).

231. Aitchen, K. Wu. China and the Soviet Union (London, 1950).

[648] In 1858 Russia and China signed the Treaty of Aigun, in which the Amur country was declared to be a Russian possession, while the Ussuri country was to be administered jointly by the two countries. But in 1860 in a treaty with Peking Russia also received the Ussuri country and was promised the Island of Sakhalin. With this, all regions which today belong to /27/ the Soviet Union came under Russian administration. In 1860 Vladivostok was founded, in whose name the imperative of Russia's Far Eastern policy was expressed: "Rule the East!"

General Survey

133 Transbaykal, like the other border areas in the Far East, belongs to the east Siberian mountain country. In contrast to the other

Chita. Until a few years ago there were only two sugar factories in Voroshilov (Ussuri-Khanka Area) to supply the sugar needs. The largest of the two could process up to 1,400 tons of sugar /180/ beets a day. In order to supply Chita Oblast and the Buryat-Mongol ASSR, the cultivation of sugar beets has been begun there since 1943, and a sugar factory has been built in Bichura in the Buryat-Mongol ASSR. Another such factory is supposed to be built in Chita. The extraction of plant oils is done primarily by two large oil mills in addition to numerous small installations which are part of agricultural establishments. One of these large oil mills is in Blagoveshchensk, where primarily sunflower seeds are processed; the second of these large oil mills is in Voroshilov. It specializes in the processing of soy beans and perilla seeds.

/181/ TRANSPORTATION

General Significance of the Transportation Situation

The pressure (to have access) to the sea was the real reason for the unrelenting march of the Russians to the Pacific. The unfavorable situation of the Sea of Okhotsk caused them to turn to the south, where the mouth of the Amur awakened hopes in them. With obstinate patience they endured one and a half centuries until this goal, too, was attained. Their hopes, however, were disappointed. Nikolayevsk at the mouth of the Amur did not prove itself to be a suitable harbor and open door to the Pacific. In Vladivostok a more favorable place and an excellent harbor was found, but it developed slowly because the immediate hinterland was still not developed and the route from Siberia through Russia's own territory via Khabarovsk was too far. Thus, by virtue of a treaty with China, the "Chinese East Railroad," as the Russians call the north Manchurian railroad, was laid as a straight line crossing through Manchuria, even before the Amur railroad was built. With this the way to Vladivostok was shortened by about 1,000 kilometers. The north Manchurian railroad was completed in 1904; the Amur railroad, on the other hand, was completed only in 1916. The harbor in Vladivostok, however, is closed by ice for an average of 110 days, and during this period must be kept open by ice-breakers. So the glance of the Russians shifted to the south and rested in the harbor of Dal'nyy, "the far away," which was later renamed Dairen by the Japanese. From Harbin the Russians laid a railroad to Dal'nyy and laid out Port Arthur to protect the naval port. The route from Harbin

489 to Dal'nyy was, to be sure, 325 kilometers longer than the route to
648 Vladivostok, but the ice barrier in Dal'nyy was scarcely noticeable, and a second access to the Pacific was attained. In the Russo-Japanese War, to be sure, this southern position was lost, and in 1935 the north Manchurian railroad, too, was lost through forced sale. However, the outcome of World War II brought all these positions again into the hands of the Soviet Union, who restored the earlier situation by new treaties, and who thereby shows that she will pursue again the old path of the Czars. And the day is no longer far off when a railroad will lead from Ulan-Ude in Transbaykal via Ulan Bator (Urga) to Peking and Tientsin. As she did in the case of the Manchurian route, the Soviet Union can, on the basis of treaties, create another way out, which, going from Ulan-Ude directly to the sea, is more than 500 kilometers shorter than the route to Vladivostok. Only the middle piece is still missing.

648 /182/ As a result of this transportation situation, the Soviet Union exercises extensive influence on the neighboring regions. When the north Manchurian railroad was built from 1897 to 1904, northern Manchuria was extremely lightly populated. Harbin, at that time a small fishing village, already had a population of 470,000 by 1938. With the growing settlement of the land the influence of the Russians also grew, working through the railroad lines which were the nerve centers of life and of the economy. The influence of the Russians was especially great in northern Manchuria which was principally settled after the construction of the railroad; and even the Japanese were not able to eliminate this influence in the period from 1931 to 1945. It can be assumed to be obvious that this influence will begin to grow anew since the main economic channels again have received Russian blood. In this growth of influence, the limits are not in sight. In this the fact that Manchuria is surrounded geographically in the east by the Ussuri county, which in Vladivostok has the closest world harbor for northern Manchuria, is of just as great significance as the fact that northern Manchuria is surrounded on the west by the Mongolian People's Republic. And here Transbaykal plays a particular role. It represents not only a natural continuation of the Mongolian landscape; but also the Buryat Mongols are the closest relatives of the Khalkha Mongols, and, under Russian and Soviet Russian rule, the Buryat Mongols culturally and economically have attained a great jump ahead of their brothers on the other side of the border. From this an influence which will have an effect over the border can be explained as perfectly natural,

without any additional reasons. It must also be assumed as obvious that Buryat-Mongol relationships in the Soviet Union served as a model in the formation of the Mongolian People's Republic and its organization into a state, and also that thereby the influence of the Soviet Union has grown far beyond its political borders.

Land Transportation

Transportation acquires a striking importance with the size of the area. The development has shown that the transportation installations were not created because there was a necessity based on the economy of the region itself, but rather that the transportation-political standpoint of the entire state was decisive for the various transportation installations. The Amur railroad and also the Ussuri railroad were for their part built through regions which were often completely uninhabited or settled only extremely slightly. Only with the construction and after the completion of these railroad lines did people stream in in larger numbers, and accordingly the railroads became pacemakers for the colonization and development of the economy. Even today it is still so. Connection with the transportation system is the necessary condition for winning new settlement areas and for exploiting the rich natural resources of this vast land.

With the slight density of population, transportation installations, such as for example the railroads, which required a great expenditure of capital and labor, often /183/ prove themselves to be unsupportable economically, unless these installations correspond to another, higher point of view, or are built for the future in a far-sighted fashion. In both cases it is up to the power and the enterprising spirit of a great state organism to carry out mighty tasks of this type. That was the case with the old Russia and it is also the case with the Soviet Union. At any rate the slightness of the railroad network goes back to these reasons. In contrast to these, however, the transportation installations, whose introduction required only slight outlays of money, are much better developed. To this category belongs water transportation, whose present state, according to the judgment of Soviet specialists, exceeds even that of the European part of the USSR. Also in this category is air transportation.

The railroads are the main bearers of the traffic. The eastern part of the Trans-Siberian Railroad constitutes the main vein. It runs from Lake Baykal via Ulan-Ude and Chita across Transbaykal, and then,

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

THE 'NORMAL' COLONIZATION

So far only those forms of colonization in the Far East have been mentioned which might be described as typically 'Soviet', ranging from the terror exercised by the N.K.V.D. to the exuberant enthusiasm of the Komsomol.* In addition, the Soviet Government has continued the normal, ordinary colonization which went on in Czarist times. The Soviet Government has provided a number of genuine incentives to make it worth while for Russian peasants and workers to go to the Pacific coastal areas.

The first important special measure for the encouragement of voluntary migration to the Far East was a decree which the government issued on December 11th, 1933. It freed the collective farmers of the Far Eastern Territory for the duration of ten years from all compulsory grain and rice deliveries to the state. It reduced by 50 per cent the compulsory deliveries of meat, vegetables, milk and wool, and in certain distant areas such as Sakhalin and Kamchatka these deliveries were abolished altogether. To the workers and technicians of the Far East the decree of December 11th, 1933, brought higher wages and salaries. The personnel of the Far Eastern mining industry received an automatic rise of 30 per cent, and all other categories of workers and technicians one of 20 per cent. On the same occasion the pay of soldiers of the Special Far Eastern Army was increased by 50 per cent, and that of officers by 20 per cent.

It seems that these 'Stalin Privileges' as they were called were not quite sufficient to attract settlers to the Far East. Another decree was, therefore, published on November 17th, 1937, which aimed chiefly at the encouragement of agricultural colonization. On the strength of that decree, groups of collective farmers going to the Far East were to be exempt from taxation for six years and to obtain state credits for fifteen years. The decree further pledged the state to pay 50 per cent of the costs of all buildings erected by the colonists.

So much for the legislation passed for the encouragement of colonization in the Far East. In practice, things proceeded very often on lines that are reminiscent of Gogol's *Dead Souls*. Each Soviet state authority or building organization in need of manpower for the Far East had its own small recruiting office in Moscow. Special recruiting agents were employed who were paid a fixed sum for every person whom they persuaded to take up work at a Far Eastern building site or factory. The usual tariff was thirty roubles per person, but occasionally the fee was

* Another special form of Soviet colonization in the Far East was the mobilization of Jews for the settlement of Birobidzhan. The author has described the failure of this experiment in *Russia and her Colonies* (London, George Philip and Son, Ltd., pp. 173–8).

[32 134 [654] appearance of nature is also named, and this therefore deserves special treatment within this work. The Soviet government has specially undertaken research on this phenomenon, which is typical of the largest part of Siberia and also for parts of the European north; the government has erected eight permanent research stations for this purpose, of which four are in the regions being discussed: namely, in Petrovsk (Transbaykal), Skovorodino on the railroad line north of the northern arc of the Amur, Bomnak in the trough depression of the upper Zeya, and in Anadyr'. In addition to B. Shostakovich, M. Sumgin especially has done great service in research on permafrost. Orientation on the extent of the permafrost is given in the attached sketch map, which is based on Russian sources. This map shows that the only areas completely free from frozen ground are the areas on both sides of and between the Zeya and Bureya rivers and perhaps the area east of the Bureya Mountain Range, including the entire Ussuri country and the Maritime Krai. Frozen earth is not found in the larger southern part of Kamchatka and on Sakhalin Island either.

In the areas which are dominated by permafrost, the ground thaws in the summertime only superficially in a layer whose thickness varies considerably with the locale, and under this layer lies the permafrost, i.e. a constantly frozen layer of earth, which likewise is of varying thickness. The upper layer which thaws in the summer, is called "active" (deiatel'nyi sloi) /52/ by the Russians, and only it is the bearer of organic life. In the majority of cases the pieces of earth in the permafrost area are so strongly cemented together by ice that the ground gives way only under the blows of a crowbar. However, this sign of linking together by ice must not be used as the sole means of determining whether the ground should be classed as eternally frozen; rather this classification depends above all on the temperature. Thick rock can also bear permafrost, although no external changes can be discovered on the rock.

In the winter the ground freezes from the surface down. In many cases, then, the winter freeze and the permafrost grow together into one unit, but in most cases there remains between the two an unfrozen horizon, whose water under special morphological conditions, especially at the foot of slopes, breaks through the upper frozen layer or is pressed out by the pressure from above of the frozen earth. This leads to formations of ice on top of the ice (Naled'), which, since the water flowing out freezes again and again, can often extend over a large area and can attain a thickness of more than one, indeed of two meters.

1 [i.e. permafrost -- Analyst]

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Sea--i.e., the regions on both sides of the Long Strait--generally offer the greatest difficulties for shipping. Ice formation sets in the end of September to the beginning of October, beginning first in the areas near the coast, where the salt content of the water is lowered by the rivers emptying into the ocean. From the coast the ice then grows out into the sea, forming an uninterrupted ice covering by the end of November to the beginning of December. This solid ice stretches in winter to approximately the line where the ocean becomes 25 meters deep, and, accordingly, the width of the ice fluctuates considerably depending on the depth conditions. At the new Siberian Islands the ice extends from the coast out into the sea beyond these islands and, being 350 kilometers and more wide, it attains here the greatest width in the Arctic. Approximately the beginning of April the first signs of the breaking up of the ice appear. In May and June there is an active formation of splits. As the season progresses the great ice fields become smaller and smaller and finally become ice floes, between which a ship can go. The farther to the east one goes the later the breaking up of the ice begins; in the Chukchi Sea it usually does not begin until July. The deeper parts of the North Polar Basin are covered with Arctic pack ice, which toward the end of winter has a thickness of 3 to 3.5 meters. In the course of the summer this sinks to 2 to 2.5 meters. Through tidal currents, surface currents, and the effects of the wind, strains and pressings occur, which lead to a pressing together and with this to the formation of pack ice, whose height in places can reach 10 meters and more. Since the water movement on the shelf as a rule is toward the east, while over the deeper water the movement is directed toward the west, holes in the ice often appear in the border zones, forming here large splits, which at times can be traveled through. These split zones, which are called "polynia" (= ice-free places) by the Russians, /202/ extend from west to east through the entire Arctic part of the sea. In the Chukchi Sea it often appears right on the coast. With a north wind these ice-free areas disappear completely. The Arctic pack ice then grows together with the solid ice of the shelf. If the wind changes suddenly, then the pack ice is driven toward the north, and the polynia arrises anew.

As the attached table shows,[1] ice conditions in the entire coastal area of the Soviet Far East vary greatly from year to year and even change a great deal within a single year. A well expanded network of meteorological observation stations, along with an ice information

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[1] [Ch cat. 116, pp. 231-232 -- Analyst]

132 service and help from ice-breakers, could very much expand the use-
.654 fulness of the parts of the sea threatened by ice. And here the Soviet government has accomplished excellent work worthy of recognition.

505 The center of all the coastal traffic is Vladivostok, from which all lines start. Sea traffic is most active in the most southerly part of the coast as far as Nikolayevsk on the Amur. However, the more northerly localities are also visited regularly several times a year. The longest line leads to the mouth of the Kolyma, whence a trip by one or even several steamers at the same time is undertaken every year. Of the 2,021,000 tons of goods turned over in the harbor of Vladivostok (1935), 864,000 tons came from coastal traffic.

The following figures on distances may explain transportation conditions:

Coastal Steamer Lines

Distances from Vladivostok

Sovyetskaya Gavan'	1,075 kilometers
Aleksandrovsk on Sakhalin	1,335 kilometers
Nikolayevsk on the Amur	1,575 kilometers
Okhotsk	3,210 kilometers
Petropavlovsk	2,785 kilometers
Anadyr'	4,640 kilometers
Mouth of the Kolyma	5,200 kilometers

(Next table on following pages)

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/205/ B. SPECIAL SECTION

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/207/ THE PROVINCES

General Division

133 As the general survey has already shown, the geographical conditions of even a large division of the entire region fall into 1

1 [Ct. cat. 133, p. 232 for continuation — Analyst]

133 covered with tundra. Thus from the sea the cape looks like a mighty island, which in its layout vividly recalls the rocks of Gibraltar. The northern and also the southern mountain chain consist predominantly of gneiss and granite. In the Anadyr' Mountain Range Mesozoic rocks are already drawn into the faulting, and south of this range Tertiary layers are also drawn in; thus from north to south one encounters more recent mountain formations.

As a consequence of the easier accessibility the coast of the Chukchi Peninsula is very well explored. Shelagskiy Cape on the eastern side of Chaun Bay is approximately 950 meters high. Further to the east the mountains, which are 600 to 800 meters high, fall back and make free a broad coastal plain with lakes and beach formations full of lagoons. These beach formations, however, are here and there interrupted by round humpy mountains, in which the basic stone /291/ projects from alluvial land plains. At Kolyuchin Bay the mountains again go right down to the sea. Cape Serdtse-Kamen' has heights of
•[654] from 600 to 900 meters. Eight polar stations have been erected on the coast of the Arctic Ocean on the Chukchi Peninsula to observe the climatic and especially the ice conditions for the benefit of shipping. These stations are distributed over the Chukchi Peninsula at almost equal intervals. All are equipped with radio stations and are supplied for the most part by airplane. The eastern and southern coast of the peninsula, where the mountain ridges often go down to the sea, is richly divided by various bays. From Anadyr' Bay, KerstaBay penetrates farthest into the land. On a side arm of Kresta Bay lies the highest elevation on the Chukchi Peninsula, the Matachingay. With its 2,800 meters it dominates the mountains surrounding it which are 600 to 800 meters high. At its foot andesite appears, and thus one can probably correctly assume the mountain to be a volcano formation.

137 The bulk of the Chukchi Peninsula is covered with tundra, which makes for a very varied picture according to the relief. Swampy depression tundra, interrupted on the courses of the rivers by pasture and birch underwood, appears only in the valleys and plains. Of greater value is the dry mountain tundra, which is covered with good reindeer moss. The mountain tundra traverses the flat ridges of the mountains and insure the existence of the great reindeer herds of the Chukchi. The higher mountain ranges and mountain peaks are completely without vegetation and are richly sprinkled with rock ruins. Growth of trees occurs very rarely. It is limited to individual, protected spots. Only in the valleys opening toward the south into the Anadyr' region do

into being. However, a significant part of the immigration has been also for the benefit of agriculture, which, according to all reports, has made extraordinary progress. Thus, Kamchatka, which earlier had to have the bulk of its food supplied from outside, already gets along in large part with its own production, and the goal of autarchy in terms of food will probably soon be reached.

In the southern part of the peninsula, which has a mild climate, the breeding of cattle has attained a great and continually growing significance. The climatic conditions here are approximately the same as those of Sweden. The number of cattle had already reached several thousand head by 1939. A series of livestock sovkhoz have taken over the job of supplying milk and meat to the localities engaged in the fishing industry. In the Kamchatka valley and in the environs of Petropavlovsk agriculture, too, has made a start. The area under cultivation increases from year to year. In sovkhoz and kolkhoz grain, potatoes, and vegetables are cultivated with success. Fruit /301/ trees were introduced, and today are already yielding their own apples. A series of agricultural experimental stations in the interior and also in the coastal regions are to prepare the further development of agriculture and the breeding of livestock.

Of greatest importance for the economy of Kamchatka is fishing and the catching of sea animals. In this respect Kamchatka is the most important area in the Far East, and it is especially prominent because of the appearance of highly valuable types of salmon. The west coast has the principal role in the catching of salmon and crabs. On the east coast the area around the mouth of the Kamchatka is a pronounced salmon region, while Petropavlovsk constitutes the center of the catching of sea animals. From passive, rapacious catching of fish in immovable, built-in traps--the so-called "fish dams," which blocked the river--a transition has been made to catching the fish in sweep nets and drag nets. Thus the fish are now not caught at the mouths of the rivers alone but also in the sea. The earlier, primitive covering of the mounds of caught fish with salt, a practice which was customary on the entire coast of the Far East and under which great quantities of fish spoiled, has given way to smoking of the fish and salting of the fish in vats and above all to processing in canning factories. Modern fishing steamers with processing equipment on board have contributed to making Kamchatka today the second fish-catching region in the Soviet Union, second only to the Caspian Sea. In the catching of crabs Kamchatka even is in first place in the

world. The crabs are extraordinarily large and attain lengths of half a meter and more. They are drawn up from the bottom of the sea in drag nets in which they get entangled. Worthy of mention in this connection are the floating crab canning factories, which are used on the west coast and which carry out on board all the work from catching to canning.

The capital of the peninsula is Petropavlovsk. The city lies on Avacha Bay, which freezes over only exceptionally. The bay is surrounded in a semi-circle by the panorama of high volcanos. The city's favorable natural harbor, which a short while ago got a shipyard with a dock for ships of up to 5,000 gross registered tons, gains more and more in importance since the ships of the Northern Sea Route spend the winter here before they start out on their trip to the north. This applies especially to ships which regularly travel to the Kolyma River in order to ensure supplies of heavy materials to the gold regions on the upper course of the Kolyma. Petropavlovsk is the center of the hunting of sea animals and of the industries connected with this. In addition, the city also has fish processing installations, a brickyard, saw mills, and a can factory, which is of especial importance since it supplies the necessary material to all the smaller fish processing localities. In the treeless delta of the Kamchatka River lies Ust'-Kamchatsk, the next most important locality on the peninsula. More than 2,000 workers /302/ work in the canning factories there in the summer. The locality, in addition, has a special importance as the gateway to the interior of the peninsula, which can be reached easily only through the Kamchatka valley, while the other approaches have to overcome difficult passes. In increasing measure also wood is floated down the Kamchatka River to the coast, where it is processed in and sent on from Ust'-Kamchatka. In the broad longitudinal valley of the Kamchatka there are a series of villages, among which Verkhne Kamchatsk and Mil'kovo should be mentioned. In this area removed from the coast, horses are kept, since supplying fish food for dogs causes difficulties. At the inner entrance to the cross valley, at the foot of the largest volcano cone, lies the village of Klyuchi, from which the volcano receives its name. Here the traffic lines from the interior merge and make the locality into a central trading place, especially for fur goods. In addition to Russians and Koryak, some Chinese and Koreans have also settled here. Klyuchi has a scientific observatory for the study and special observation of the Klyuchevskaya Sopka. Below the village the Kamchatka widens into a sea decorated with islands.

228 [255] 361 [504] [255] [313] [231] [154]

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316 (previously N.K.V.D.). Under the general direction of the latter a
655 powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

635 The activities of the Dalstroy are many-sided. The 'Mining Adminis-
625 tration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of
[461] 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

167 The colonization activities of Dalstroy have changed the character
361 of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

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indeed, 'The further away we send a man, the more we must be able to trust him'.[4] It can be taken for granted that a man whom the Communist Party considers particularly trustworthy will be a hard-working official, and that he will not commit any crimes such as those of which Semenchuk and Startsev had been convicted. But a trustworthy communist is not necessarily a man who understands the mentality of the Far Eastern aborigines, and who deals with their problems in the best way.

NATIVES, STATE TRUSTS AND FORCED LABOUR

In addition to the Party and the territorial administration, there is a third influential factor in the Far East which has a great impact on the 'natives', namely the big State capitalist organizations of Kamchatka, Chukotka and the territories around the Okhotsk Sea. Instead of assisting and strengthening native economy the Soviet régime encouraged the growth of State companies such as the 'Kamchatka Limited Company' (later known as 'Glavkamchatrybprom' – Kamchatka Chief Administration for the Fishing Industry), the 'State Reindeer Trust', the 'Dalrybtrest' (Far Eastern Fishing Trust) and 'Soyuzpushnina', the State organization for fur trading. Soviet experts on the Far East themselves have admitted that these enterprises employed people who were guided by a 'narrow-minded business attitude' and who discharged their duties in a 'crudely materialistic way'. All they wanted was to fulfil the target figures of the state plan. They were not interested in assisting the natives either by supplying the most essential food commodities or by encouraging cultural work. The enterprises concerned, in particular the Kamchatka Company and the Reindeer Trust, seized land, and hunting and fishing grounds traditionally belonging to the natives. Even land owned by newly established collective farms of reindeer-breeders was arbitrarily confiscated by State trusts.[5]

Another State enterprise, the previously mentioned 'Dalstroy', which operates around the Okhotsk Sea, has also greatly affected the life of the 'natives' who live in its territory. The first director of Dalstroy, E. Berzin, pointed out in 1936 that the trust had opened schools and hospitals in all centres of the native population. The budget of the native communities ('National Districts') had increased almost ten times during five years.[6] What Berzin did not say was that the native schools and hospitals had been built with the profits which Dalstroy had made by exploiting forced labour. As a matter of fact, some of the schools of which Berzin boasted are 'mixed schools', which are attended both by natives and by children of convicts who were born in captivity and taken away from their mothers.[7] In the area controlled by the Dalstroy we thus meet the most sinister aspect of the 'Soviet nationalities policy', namely, its

connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

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466 According to other sources the number of ships in Dalstroy service is higher than the four ships cited above; it has been positively stated that in 1940-1941 five more steamers (Minsk, Kiev, Igarka, Komsomol, and Uritsky) and the icebreaker, "Sakhalin," were in operation with a total shipping capacity of 35,000 passengers. (Note: Local Soviet Far Eastern radio stations which service areas with shipping administrations have been noted to make reference to the Uritsky, and in the course of the past six months a vessel named "Komsomolsk" may be the ship "Komsomol," as included in the ships carrying slave labor. This possible identification is noted because monitoring of local Soviet Far Eastern radio stations has always been plagued with the difficulty of "making out" names of persons, ships, and the like."

It goes without saying that prisoners were also shipped into Kolyma by the northern route--the run from Archangel east through the Arctic Ocean. This route was attempted because during the 1930's Soviet ships carrying slave laborers on the run from Vladivostok to Magadan passed through the Sea of Japan and the Tatar Strait, both of which were constantly filled with Japanese vessels; for obvious reasons, the Russians were not too eager to have the Fascist Japanese circles learn of this Soviet cargo. However, due to the extreme difficulties of navigation along the northern route, successes were few; instances of ships carrying laborers being caught in the ice with no survivors were not few. In summation, even if the northern route is discounted, the importation of 400,000 to 500,000 laborers annually is not impossible.

161 Recent estimates of the total population of the area have ranged between 300,000 and 1,000,000; however, inspite of the fantastic death rate among prisoners, millions have been imported as laborers, and there is reason to believe that there is approximately between one and one and a half million people in the area.

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655 5) Development of the Kolyma Area (1927-1931): Commercial gold mining really began in the Kolyma fields in 1927, and at first the entire production was in the hands of free agents who ventured into the area. "In 1929, according to official Soviet statements, gold was being panned in three fields,.... There were altogether 65 prospectors working in the three fields, and a total of 108 men living in the adjoining settlements."[2] According to Soviet law at that time, all gold was to be delivered to the government trust, Soyuz-Zoloto (Union Gold); however, no branch of this trust was closer to the Kolyma gold fields than that office in Okhotsk, which was still more than 1,000 miles from the fields. Furthermore, private gold buyers were willing to pay a higher price for gold than was the government which was attempting to keep gold prices on a level with the rising prices of commodities. This situation had the result that a large "black market" in gold arose, and much of the gold, according to Soviet officials, went into the hands of the Japanese, whose fishing boats were almost omnipresent in the Sea of Okhotsk. These fishing boats brought merchandise to sell in the gold fields, and this can be substantiated by the fact that much of the goods in the Magadan area at that time bore Japanese labels.

The Soviet Government found itself faced with two possible solutions to the problem: either it could permit free-lance gold prospecting as had been the case in California and Alaska, or it could invest a large amount of money into the area in an attempt to build up its own resources for extracting the gold. The first measure was hardly feasible, especially by a government whose basic principle was opposition to free enterprise, and the second possibility was practically impossible because the Soviet Union at that time had no money to invest. It was in this manner that the Soviet Government decided to invest its only and largest asset at that time—people. However, since few volunteers were

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2 Ibid., p. 113. 1 [the Kolyma region—Analyst]

willing to venture into such an inhospitable area, prisoner labor was considered to be the only solution whereby sufficient numbers of personnel would be available in Kolyma to exploit the gold resources there. It was at this time that the collectivization program was in progress in the Soviet Union, and labor was to be found in abundance in the form of those sturdy peasants, especially in the Ukraine and White Russia, who opposed the confiscation of their land into collectivized enterprises. Furthermore, previous attempts at the use of prisoner labor had been satisfactory in the construction of the Baltic-White Sea Canal. Consequently, it was decided to move large numbers of "socially hostile elements," as they were called, into the Magadan area to exploit the gold fields.

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6) Assumption of Control by Dalstroy (Far Eastern Construction Administration) - 1931-1932: In the winter of 1931-1932 a special administrative unit was established under the name of Dalstroy, and this organization was responsible for the development of the extreme northeastern part of Siberia—the primary task was the exploitation of the gold-rich Kolyma region. It should be noted that Dalstroy was under the direct control of the GPU (later reorganized into the NKVD and again into the MVD), which immediately undertook to supply the organization with huge numbers of laborers. It might be mentioned that Dalstroy had "first pick" of all the prisoners throughout the Soviet Union; simultaneously Dalstroy procured adequate numbers of free-labor specialists, namely, engineers of all types who were to organize the actual exploitation of gold.

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a. The Leadership of Berzin (1932-1937): Berzin was the head of Dalstroy during the years 1932-1937, and since he was the very first of the NKVD chiefs of the organization, his administration was filled with a terrible loss of life; this was not permitted to interfere with his mission, however.

After a preliminary examination of the situation, it was decided to establish a port on the Sea of Okhotsk and penetrate gradually inland rather than to use an overland route. The harbor of Nagayev, located close to the Ola River estuary, was selected as the primary base of operations; this harbor is at present the port which services the chief city of Magadan. (Note: This harbor is approximately 10 miles long and 3 miles wide.) In order to show the complete uninhabitability of the surrounding area near Nagayevo, the port area has been described as "surrounded by ridges of rock which overhang the water. The rocks, sometimes rising a thousand feet or more, protect the harbor, but on their open sides the winds blow unchecked. Down below where the steep cliffs meet the water, there is no land for human shelter. Above, one is blown off one's feet by the force of the wind that is cold, damp, penetrating, and unequalled in ferocity anywhere in the world."[3] Beyond the ridges surrounding the harbor there is a swamp of the type familiar to this region, under which perennial ice exists; beyond the swamps come the taiga.

In the summer of 1932 ships were dispatched from Vladivostok loaded with Dalstroy cargo, including machinery, equipment, foodstuffs, and manpower. The steamers were gifts to the NKVD by the Soviet Government, and each ship made from 12 to 15 voyages from Vladivostok that navigation season. These ships were specially constructed to hold large numbers of prisoners, and machine-guns covered every inch of the cells. No precautions were neglected to prevent the escape of prisoners in the areas where Japanese ships might rescue escapees and learn the nature of the Magadan enterprise.

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3 Ibid., p. 117.

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Marshal Tukhachevsky. The latter was primarily a soldier, but Blyukher was both soldier and political leader. Unlike Tukhachevsky, Blyukher was of proletarian origin – he had started life as a shop-assistant in St. Petersburg and had later become a metalworker – and his popularity with the Russian working class was secure. Unlike Tukhachevsky, Blyukher had suffered under the Czarist régime. He had joined the Bolshevik Party a whole year before the October Revolution, early enough to lay claim to the once so honourable title of 'Old Bolshevik'. Although only a private in the Czarist army in which Tukhachevsky had served as an officer, Blyukher emerged as one of the great military commanders of the young Soviet State during the Civil War. In 1918, by his remarkable expedition across the Ural mountains, he secured the victory of the Revolution on what was then the 'Eastern Front'. For this outstanding feat he was awarded the Order of the Red Banner. He was the first person to receive this decoration.[13]

Blyukher's association with the Soviet Far East, which became the main reason for his prominence, started in 1921. He commanded that heroic march to the Pacific Ocean which included such momentous events of the Russian Civil War as the storming of the heavily fortified white-guard stronghold, Volochayevka, the capture of Khabarovsk, and the final liquidation of Japanese intervention.

For Russia as a whole the elimination of Blyukher meant that Stalin's last potential competitor, a man who might have easily become more popular than he, had gone. For the Soviet Far East it meant the end of a historic period and it also resulted in a rewriting of its past history. Naturally, Blyukher's real historic feats remained unchanged, but the régime did its best to strike his name from history as it lives on in the minds of the people, particularly in the minds of the rising generation. It is difficult to write the history of the Soviet Far East up to 1938 without mentioning Blyukher, but Stalin's historians have achieved this task. Blyukher's name is now left out of all accounts of the Russian Civil War. The first edition of the *Large Soviet Encyclopedia*, in its volume, Number 6, which was published in 1930, described Blyukher as 'one of the outstanding personalities of the Red Army'. The second edition of the *Large Soviet Encyclopedia*, which was published after the Second World War, did not mention him at all.

THE TRIUMPH OF THE N.K.V.D.

The reorganization of the 'Special Far Eastern Army' and the disgrace of its commander were followed by the abolition of the Far Eastern Territory. It may be argued that this latter measure was not especially prompted by the peculiarities of the situation in the Far East. The Soviet Government had gradually abolished all the original large

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636 administrative units, such as, for instance, the West Siberian Territory,
656 the East Siberian Territory and the North Caucasus Territory. The Far Eastern Territory was, however, the last to be affected by these administrative reforms, and then only after the purges there had been completed. On October 20th, 1938, it was decreed that the Far Eastern Territory would cease to exist and that two new 'Territories' would take its place, the Khabarovsk Territory, which still included the bulk of the former F.E.T., and the Maritime Territory, with Vladivostok as the capital. After the war the administrative splitting up of the Soviet Far East was carried further. In the west, the Khabarovsk Territory lost the Amur Province (administrative centre: Blagoveshchensk) and, in the east, Sakhalin was removed from its jurisdiction and made a self-contained province.

625 To consolidate the position of the party in the two new 'Territories',
433 a position so badly shaken by the purges, the government saw it necessary to strengthen the powers of the N.K.V.D., particularly the control which the latter exercised over several vital branches of Soviet Far Eastern economy. The full extent of the N.K.V.D. rule in the Far East was disclosed by the Soviet Economic Plan for 1941, a secret document produced for inter-departmental use, but not intended for the Soviet public and still less for foreigners.* It showed that the People's Commissariat for Internal Affairs was a much more important organizer of certain industrial activities than the ministries nominally responsible for them. The plan revealed, for instance, that the N.K.V.D. controlled nearly 83 per cent of the coal output of the Khabarovsk Territory. Only 13 per cent of it was in the hands of the People's Commissariat for Coal (*Narkomugol*) and the remaining 4 per cent was split up between other ministries. In the field of timber production the N.K.V.D. did not hold the same monopoly. It provided 'only' one-third of the entire timber supply of the territory, slightly more than the quota allocated to the People's Commissariat for the Timber Industry (*Narkomles*). Another important sector of N.K.V.D. work was production of building material. Over one-fifth of the bricks produced in the Khabarovsk Territory in 1941 was to come from the Chief Administration of Corrective Labour Camps, one of the specialized agencies of the N.K.V.D. In the much smaller Maritime Territory the N.K.V.D. has little importance as an economic factor, except for the timber industry, where it tackled over 20 per cent of the whole production. But

* The full title of the document is 'Gosudarstvenny Plan Razvitiya Narodnogo Khozyaistva S.S.S.R. na 1941 god (Prilozheniya k Postanovleniyu S.N.K. S.S.S.R. i TsK VKP (b) Nr.' 127 ot 17 Yanvarya 1941 g.) – State Plan for the Development of the National Economy of the U.S.S.R. for 1941 (Appendices to the Decree of the Council of People's Commissars and of the Central Committee of the All-Union Communist Party (Bolsheviks), Nr 127 of January 17th, 1941.) The material on the economy of the Soviet Far East is contained in the appendices 371, 372 and 373, pp. 324–336.

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THE 'NORMAL' COLONIZATION

So far only those forms of colonization in the Far East have been mentioned which might be described as typically 'Soviet', ranging from the terror exercised by the N.K.V.D. to the exuberant enthusiasm of the Komsomol.* In addition, the Soviet Government has continued the normal, ordinary colonization which went on in Czarist times. The Soviet Government has provided a number of genuine incentives to make it worth while for Russian peasants and workers to go to the Pacific coastal areas. 167

The first important special measure for the encouragement of voluntary migration to the Far East was a decree which the government issued on December 11th, 1933. It freed the collective farmers of the Far Eastern Territory for the duration of ten years from all compulsory grain and rice deliveries to the state. It reduced by 50 per cent the compulsory deliveries of meat, vegetables, milk and wool, and in certain distant areas such as Sakhalin and Kamchatka these deliveries were abolished altogether. To the workers and technicians of the Far East the decree of December 11th, 1933, brought higher wages and salaries. The personnel of the Far Eastern mining industry received an automatic rise of 30 per cent, and all other categories of workers and technicians one of 20 per cent. On the same occasion the pay of soldiers of the Special Far Eastern Army was increased by 50 per cent, and that of officers by 20 per cent.

It seems that these 'Stalin Privileges' as they were called were not quite sufficient to attract settlers to the Far East. Another decree was, therefore, published on November 17th, 1937, which aimed chiefly at the encouragement of agricultural colonization. On the strength of that decree, groups of collective farmers going to the Far East were to be exempt from taxation for six years and to obtain state credits for fifteen years. The decree further pledged the state to pay 50 per cent of the costs of all buildings erected by the colonists. [651] [652]

So much for the legislation passed for the encouragement of colonization in the Far East. In practice, things proceeded very often on lines that are reminiscent of Gogol's *Dead Souls*. Each Soviet state authority or building organization in need of manpower for the Far East had its own small recruiting office in Moscow. Special recruiting agents were employed who were paid a fixed sum for every person whom they persuaded to take up work at a Far Eastern building site or factory. The usual tariff was thirty roubles per person, but occasionally the fee was

* Another special form of Soviet colonization in the Far East was the mobilization of Jews for the settlement of Birobidzhan. The author has described the failure of this experiment in *Russia and her Colonies* (London, George Philip and Son, Ltd., pp. 173–8).

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higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

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III

THE ABORIGINES OF THE SOVIET FAR EAST

101 There are about 60,000 aborigines in the Soviet Far East (excluding Yakutia and Buryat-Mongolia) belonging to over a dozen different nationalities. The ethnographers divide them into two main groups. The first group, the Paleoasiats, includes the Chukchi, the Koryaks, the Asiatic Eskimos, the Aleuts, Ainu, Nivkhi and Kamchadals. Of the second, the Manchu-Tunguz peoples, the most important are the Tunguz proper, or Evenki, the coastal Tunguz, or Eveni, the Nanai and the Udege. Politically and sociologically all these nationalities
563 must be considered as one single entity. The Soviet régime has treated them quite differently from the Korean, Chinese and Japanese minorities. As the small groups of aborigines are unable to handicap Russian colonization, the Communist Party has patronised them, and Soviet propaganda has always devoted a great deal of publicity to them, even at a time when there was complete silence about the Koreans and Chinese of the Soviet Far East. This does not necessarily mean that Soviet Russia has handled the problems of the Far Eastern aborigines successfully.

TWO VIEWS ON NATIVE POLICY

563 In the first years following the October Revolution the most authoritative
177 Russian anthropologists felt that the time had come to take special
656 measures to protect the Far Eastern and Far Northern natives from the pernicious influences of European civilization. Demands to that effect were voiced, in the winter of 1921–22, in the organ of the People's Commissariat for Nationalities, *Zhizn Natsionalnostei*. The most remarkable contribution to the problem of the small nationalities came from Professor Vladimir Germanovich Bogoraz-Tan (1865–1936), who had a profound knowledge of the problems of the tribes of North-Eastern Siberia, particularly of the Chukchi. Professor Bogoraz suggested that the Soviet Government should draw the lessons from certain experiments carried out in the native territories of Canada, the United States, Brazil and Argentina. It seemed vital to him that the mode of

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563 177 656 life and the living conditions of the primitive tribes should be protected against every influence on the part of their more civilized Russian neighbours, or even of other stronger non-Russian peoples. Russians, Bogoraz said, should not be allowed to make any use whatever of the territories inhabited by the 'primitive tribes'. They should not even be permitted to enter them. Exceptions were to be made only for three categories of people, first anthropologists and linguists, secondly certain persons who would render practical services to the territories, such as doctors and technicians, and thirdly the ideologists of the new régime. Professor Bogoraz warned against making any economic experiments with the natives. He said that such experiments would not enhance the welfare of the Far Northern and Far Eastern tribes, but would, in fact, undermine their existence.[1]

To carry out a systematic policy of protection of the natives Professor Bogoraz demanded the foundation of a special committee to be attached to the People's Commissariat of Nationalities. Such a committee was in fact founded with the prominent participation of Professor Bogoraz himself. It was the 'Committee of the North'. It had a huge bureaucratic apparatus consisting of five departments. The first dealt with administrative and legal matters, the second with economic and financial affairs, the third was concerned with scientific research, the fourth with health and the fifth with education. The Committee of the North had a Far Eastern Bureau in Khabarovsk which dealt with the small Far Eastern nationalities.

From the very beginning two tendencies made themselves felt within the Committee. People like Bogoraz-Tan viewed its work primarily from a philanthropic point of view. They thought that the Committee was nothing more than an organization to assist the Far Northern and Far Eastern peoples to recover from the blows which contact with European civilization had inflicted on them. Die-hard Bolsheviks, on the other hand, had a different approach. They considered the Committee to be an instrument of economic exploitation of the Far Northern territories, and for fostering class struggle among the tribes.

563 635 Their view did not prevail at once. In the first five years of its existence, between 1924 and 1929, the Committee did not interfere much with the tribal system of the Far North and Far East. The administrative pattern enforced in other parts of the Soviet Union was not extended to the small native peoples. Those living in the Far East were given such forms of local administration as were acceptable and comprehensible to them. Each tribe had a Tribal General Assembly ('Obshchee Rodovoe Sobranie') which elected a Tribal Executive Committee ('Rodovoy Ispolnitelny Komitet'). Several related tribes sent delegates to a Tribal District Congress ('Rayonny Rodovoy Sezd') which elected a Tribal District Executive Committee ('Rayonny Rodovoy Ispolnitelny

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Komitet'). The Tribal Committees of the lower order were later described as 'Native Soviets' ('Tuzsovety') of which there were 400 all over the Far East and Far North. The most remarkable fact about this tribal administration was that participation in tribal and native Soviets was not limited by class criteria.

This idyllic state of affairs could not last long. From one plenary meeting of the Committee of the North to the next the intransigence of its more radically minded members increased. In 1929 the Committee firmly decided to apply the principles of class struggle to the Far North, and from 1930 onwards, the tribal administration was abandoned. Regular organs of local government ranging from village Soviets to 'National Areas' ('Okrugs') were created instead. This meant in fact the end of the 'native reserves' which the Russian anthropologists had advocated in the early years of the Soviet régime. Under the new set-up Russian and other European Party and State officials were able to increase their influence in the running of native affairs. The natives were linked politically and administratively as closely as possible with the metropolitan territories of the U.S.S.R. In 1935, the Committee of the North itself was disbanded.

By the time of its abolition the Committee had lost a great deal of its previous importance. Many of its original duties had been taken over either by the Chief Administration of the Northern Sea Route, 'Glavsevmorput', or by local government organs. The Chief Administration of the Northern Sea Route, which had at its disposal a large staff of experts on nationalities problems, was originally launched as a body with extremely wide powers. Among other things, it was supposed to look after the well-being of the Far Northern tribes, direct cultural work among them, organize health services and help to promote their 'sovietization'. In the autumn of 1938 the Soviet Government decided that 'Glavsevmorput' could not carry out these tasks properly. A decree of the Council of People's Commissars stipulated that it was to hand over to the territorial administrations all enterprises and institutions which were not directly connected with the development of the Northern Sea Route.[2]

COMMUNIST ADMINISTRATORS

The abolition of the Committee of the North in 1935, and the curtailing of the powers of the 'Glavsevmorput' in 1938, increased the responsibilities of the administrative authorities and party organizations of Khabarovsk. It cannot be said that the latter have shown great enthusiasm for work in the National Areas and National Districts of the small nationalities. In fact, up to 1939 most of the officials posted to distant parts of the Far Eastern (later Khabarovsk) Territory went

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connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

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Soviet officials failed to understand that the reindeer plays a vital part in the life of the Northern tribesmen, and that it is not a mere subsidiary to their economy as is the cow of the Russian peasants. According to the tribal customs of the Koryaks and Chukchi it is a sin to sell a living reindeer. The Soviet administrators denounced this custom as sabotage, and imposed on the reindeer-breeders not only compulsory sales, but also the confiscation measures which accompany collectivization. The setting up of collective farms and state farms in the native territories of the Arctic regions of the Soviet Far East, led in the 'thirties' to the unleashing of a violent class struggle which, in turn, resulted in a drastic drop in the number of reindeer. Not only did the rich reindeer breeders engage in large scale 'predatory slaughter' of the animals, but they also hampered the collectivization and nationalization measures in other ways. To escape 'de-kulakization', they split their large herds into smaller ones, and distributed them among their shepherds. Moreover pastureland was wilfully destroyed, apparently on a considerable scale.

Loss of reindeer occurred not only in the private but also in the State-controlled sector. The new State farms which were to introduce higher forms of reindeer breeding were, in reality, far more inefficient than the individual reindeer breeding nomad. In the Far East the State reindeer farms lost one-third of their herds within a single year – a catastrophe which could not be attributed entirely to the infiltration of class-alien elements.

Official Soviet statistics about the development of Soviet Russia's reindeer population demonstrate convincingly what damage the collectivization measures caused. In the first years of the communist régime when state interference with the Far Northern economy was slight there was a clear upward trend. The number of reindeer in the entire Soviet Union increased from 1,765,000 in 1923 to 2,193,000 in 1926–27 and to 2,700,000 in 1931. The year 1931 was the turning point. In 1932 the stock fell to 2,333,000, in 1933 to 2,030,000 and in 1934 it was as low as 1,889,000. These figures which apply to Soviet Russia as a whole do not fully reveal the catastrophic consequences of communist reindeer policy in the Far East. In the Koryak National Area, for instance, where full collectivization had been planned for 1933, the number of reindeer decreased from 264,000 in 1926 to 173,000 in 1932 and 127,000 in 1934.[12]

Soviet statistical evidence about Russia's reindeer population after 1934 is contradictory. Figures produced by various official Soviet sources show a large margin of difference. The *Small Soviet Encyclopedia* says that on January 1st, 1938, the number of reindeer was 1,766,000.[13] This would mean that the situation was then even worse than in 1933. On the other hand, a Soviet standard work on Russian reindeer-breeding published in the post-war period claims that the number of reindeer in 1938 was 28 per cent higher than in 1933. But even this book which

563 As has already been said, the Buryat Mongols have a cultural
517 administration of their own in the Autonomous Soviet Republic named after them and in the national districts already listed. Using the Russian alphabet, they have created their own writing. Elementary schools have permeated the entire land, and there are also higher schools in the cities; hence, according to Soviet claims, illiteracy has been almost completely eliminated. Newspapers appear in the Buryat language, and in Ulan-Ude even a Buryat-Mongolian theater has been brought to life. Numerous cultural institutions provide political enlightenment. Like all autonomous regions in the USSR, the Buryat Mongol ASSR has, as it is called in Soviet literature, a culture which is national in form and Socialist in content. This goal is also strived for with the other old peoples. In the national districts such as the Chukchee (capital Anadyr') and the Koryak (capital Palma) have, so-called "Kultbazen" (culture bases) play an important role in this connection. Since continuous measures for influence and
[658] education are not possible with areas so large and populations so widely scattered over these areas, there have been created for this purpose culture bases which are visited on occasion by the natives. How life in such a culture center can be envisaged is described by Nicholas Mikhailov (Land of the Soviets, New York 1939, p. 187): "When a hunter or reindeer breeder enters a culture base, he is provided with food, and a bed is placed at his disposal. He is led into the museum, and the natural bases and the economy of his region is illustrated to him. He is shown the workshops, and, if necessary, his gun, his sled, or his clothing are repaired. He learns now to rear animals, to remove their hides and to prepare the hides, how to preserve fish and how to take care of sick reindeer. /112/ A doctor examines the hunter in a clinic and treats him as necessary. The new arrival takes a bath, attends the movie, and listens to the radio."

563 Apart from the Buryat, who have self-consciously taken their own fate into their hands, and the Chukchee and Koryak, who stand out above all others because of their important reindeer breeding and who can lead their own life apart from the rest of the world, all the other small peoples and remains of peoples are without significance for the development of the land, however interesting their ethnological remains are. Their existence in the broad wastes of their residential areas is limited to very primitive self-sufficiency or to the exchange of their products for other basic needs. Thus it was left to the Russians, not only to develop the land but also to bring it closer to the great economy and the world.

1/1 [cf. cat. 563, p. 115 -- Analyst]

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THE FAR EASTERN TERRITORY

636 During the whole period from 1922 to 1937–38 the Soviet Far East enjoyed a special position within the Soviet Union. From the administrative point of view the Soviet Far East formed one large unit, the 'Far Eastern Territory' (F.E.T.). It covered roughly one-eighth of the entire surface of the U.S.S.R. The F.E.T. existed from January 1926 until October 1938, but there was a slight amputation of the territory in 1930, when the districts of Sreten and Chita were detached. Militarily, too, the Soviet Far East had a semi-independent existence by the establishment, in August 1929, of the Special Far Eastern Army ('Osobaya Dalnevostochnaya Armiya') usually referred to by its initials as ODVA and a year after its foundation as OKDVA (Osobaya Krasnoznamyonnaya Dalnevostochnaya Armiya', meaning 'Special Far Eastern Army decorated with the Order of the Red Banner').

Both army commanders and administrators in the Far East showed a considerable degree of independence, which, in some cases, even expressed itself in open opposition to the régime. This is true, in particular of the party leaders of Vladivostok, a city which, like that other opposition centre, Leningrad, was a window into the world. The radical course, aiming at the liquidation of the remnants of private property, which the Bolshevik Party took after its Fifteenth Congress (1927) did not meet with approval in a trading centre like Vladivostok. Both [661] Vladivostok and Chita became, in the late twenties, strongholds of a right-wing opposition and the Central Committee in Moscow had to dismiss the local party chiefs.[3]

185 578 Difficulties between the centre and the Far Eastern communists continued after the suppression of the right-wing deviation. Problems connected with the implementation of the First and Second Five-Year Plans were an almost inexhaustible source of disagreements. Already during the first Five-Year Plan period the State Planning Commission in Moscow had worked out big development schemes for the Far East, providing for the building of additional railways, an increase of coal and oil production, and far-reaching industrialization. When it became clear that many of the envisaged projects could not be carried out neither Moscow nor Khabarovsk wanted to take the blame for the failure. The central authorities complained about the inefficiency of the 'Far Easterners' and the latter denounced the lack of understanding of the officials at the centre. At the Sixteenth Party Congress, which was held in 1930, the spokesman of the F.E.T., Perepechko, referred to the 'hideous attitude of various central organizations' towards the economic problems of the Far East.[4] If it were not for this negligence, Perepechko asserted, the F.E.T. would carry out the basic tasks of the Five-Year

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185 578 Plan in three years. The later development showed that it took not three but ten years to reach the target figures which the first Five-Year Plan had fixed for the coal and oil production of the Far East.* The Central Government refused to admit that the shortcomings in the Far East resulted from deficiencies of all-Union planning, and tried to put the blame on local scapegoats who were charged with committing deliberate sabotage. More than that, the Central Government alleged that the Far Eastern administrators were 'Japanese spies', although they were, presumably, no more connected with Japan than the Leningrad opposition was linked with Germany. The Far Eastern communists, it is true, had shown great eagerness to establish commercial relations with other Pacific countries including Japan, but this had been done with the agreement of the centre.

THE PURGE OF THE 'CIVILIANS'

661 687 665 Although there was no evidence for charges of high treason the Soviet Government carried out a purge on a vast scale throughout the Soviet Far East. It would be incorrect to say that there was one big purge. There were at least two purges, one directed primarily against 'civilian' communists, and another aimed mainly at the army. The first purge, which was closely connected with economic shortcomings, started in the first months of 1937 and led to the disappearance of the head of the administration of the F.E.T., Krutov, and of the party secretary, Lavrentev. At the same time administrative heads and party officials were sacked all over the Soviet Far East. For many months there were no 'first secretaries' in many city committees and district committees of the Communist Party.

There is one aspect of the purge of the 'civilians' in the Far East which deserves special mention, the purge of the railwaymen. The railwaymen of the Far East were traditionally the backbone of the Communist Party in that distant part of the Soviet Union, and the solidity of Moscow's connection with the Pacific coastal areas depended largely on their efficiency. In the 'thirties' their job became increasingly difficult. Between 1933 and 1936 the freight turnover of the Far Eastern railways had increased three times. This was more than they could stand. The Far Eastern railway system broke down. A great many accidents occurred. The Government asserted that they were all engineered 'on instructions of the Japanese intelligence service.' The supreme responsibility for the wrecking of trains was officially attributed to Trotsky and to the

* Production of oil was to reach 464,000 tons by the end of the first Five-Year Plan in 1932. In 1933 output was 196,000 tons; in 1936, 308,000 tons, and in 1938, 360,000 tons. The coal target for 1932 was 4,000,000 tons. In 1933 output had reached 2,020,000 tons, and in 1936, 3,617,000 tons. The target for 1937 was 5,000,000 tons, but actual production in 1938 was only 4,750,000 tons.

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661 687 665 various members of the so-called 'Anti-Soviet Bloc of Rights and Trotskyites' which was allegedly led by Bukharin. In the Far East itself the Soviet Government staged a big trial of leading railway officials working on the Amur railway line, a sector of the Trans-Siberian railway. The trial took place in the town of Svobodny. All forty-four defendants were sentenced to death as 'Japanese spies'. They included the deputy head of the Amur railway line, the head of its planning department, the deputy head of the locomotive service and many other people of similar standing in the Far Eastern railway transport.[5] The sentence of Svobodny had considerable repercussions throughout the F.E.T. Sweeping changes took place not only in the top leadership of the Far Eastern railways but also among the rank and file of the railwaymen. Demobilized soldiers were rapidly trained for the railway and called upon to fill the gaps opened by the purges.

The man who, in 1937, carried out the purge in the Soviet Far East was a complete newcomer to the territory. His name was Vareikis, he was Lithuanian-born and had occupied various important positions in European Russia, as party secretary first of Voronezh and later of Stalingrad. He was also a member of the Central Committee of the Bolshevik Party. When he arrived in Khabarovsk in the spring of 1937 he seemed to possess the full confidence of Stalin, but by the end of the year he had lost it. He was charged with surrounding himself with spies and white guardists. A case in point was the editor of the largest Far Eastern newspaper *Tikhookeanskaya Zvezda* (Far Eastern Star), Shver, who was expelled from the party by a special decision of the Central Committee taken at the beginning of October.[6] Vareikis survived his friend only by a few days.

THE PURGE OF THE FAR EASTERN ARMY

661 701 The disgrace of Vareikis and his supporters carried the disintegration of the party apparatus in the Far East a step further. Only one important force continued to exist in the F.E.T., the Special Far Eastern Army and its commander, Marshal Vasily Konstantinovich Blyukher. But it was clear that this last bulwark of Far Eastern 'autonomism' would, sooner or later, be affected by the big Stalinist clean up of Russia's military leadership. One of the defendants of the Tukhachevsky trial of June 1937, the commander of the Byelorussian Military District, Uborevich, had had important connections with the Far East. In 1922 he had been the liberator of Vladivostok and he had stayed in the F.E.T. for several years. There was another military person who was closely linked with Stalin's Far Eastern opponents, Gamarnik, the chief of the Political Administration of the Red Army and an Assistant People's Commissar for Defence. Had he not committed suicide he would most

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certainly have appeared in the Tukhachevsky trial. Gamarnik's presence in the Far East was frequently mentioned in the Soviet Press, the last time late in 1936, when he attended the autumn manœuvres of the OKDVA.[7] One of the last pictures which Soviet newspapers published of Gamarnik showed him with the Far Eastern deputies to the Eighth Congress of Soviets.[8] So there is no doubt that Gamarnik stood in close personal contact with some of the leading personalities of the F.E.T. It is possible that he had closer contacts with the civilian than with the military opposition in the Far East. This might explain why his fall from favour did not harm the Special Far Eastern Army directly, except for its political departments which were under Gamarnik's orders.[9] At any rate, the Tukhachevsky-Gamarnik *affaire* did not affect Blyukher's prestige immediately. Blyukher was even one of the judges who sent Tukhachevsky and his associates to the gallows: these judges, who also included Marshal Timoshenko and Marshal Budyonny, were officially referred to as 'the flower of our glorious army'.[10] In the months after the Tukhachevsky trial they served Bolshevik propaganda as examples that Stalin had not wiped out Russia'a entire military leadership.

It seems that in the winter of 1937–38, Blyukher and his army reached the culminating point of their power in the Far Eastern Territory. The influence of Blyukher and his army was particularly visible in the elections which took place in December 1937 for the Supreme Soviet of the U.S.S.R., the first to be held under the new Stalin Constitution. Out of the nine deputies which the F.E.T. sent to the Soviet of the Union four belonged to the OKDVA, including Blyukher himself and his deputy, Mikhail Karpovich Levandovsky, who commanded the troops of the maritime region around Vladivostok. The fifth deputy, a submarine commander, represented the Pacific Fleet.* The party, the administration and the N.K.V.D.† had one deputy each. Only the ninth deputy represented the common people. He was a Stakhanovite worker in the timber industry.

When the Soviet parliament met in January 1938 Blyukher was elected a member of its presidium. In the following month, on Red Army Day, he was awarded the 'Order of Lenin'. At the end of May a meeting of 6,500 workers and peasants nominated him as a candidate for the elections to the Supreme Soviet of the R.S.F.S.R.[11] Until the

* The Soviet Pacific Fleet was built up between 1932 and 1937. In the first years of the Soviet régime a Russian Pacific Fleet was as good as non-existent; until 1932 it included but one single gun-boat. Describing the situation at the time of the arrival in Vladivostok of the first Red Navy commander in the Pacific, M. V. Viktorov, *Pravda* said pointedly 'There was a commander, there was also a Pacific, but no Pacific Fleet' (*Pravda*, March 29th, 1937.) It was Viktorov's achievement to create a Soviet Pacific Fleet in a matter of four to five years. He too was eliminated in the big clean-up of 1937-38.

† The N.K.V.D., the People's Commissariat for Internal Affairs, later Ministry for Internal Affairs (M.V.D.) is the ministry responsible for the Soviet police.

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

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have probably been exaggerated, partly to serve as an excuse for the inefficiency of Soviet administration and partly as a pretext for the anti-Shaman measures taken by the régime. The fight against the Shamans took the same forms as the campaign against other religions of the Soviet Union, ranging from ordinary anti-religious propaganda to administrative terror. The Far Northern cells of the League of Militant Godless were in charge of the former. In view of the complicated character of Shamanism it was no easy affair to combat it and a more thorough picture of its regional diversities had first to be obtained. The League of Militant Godless therefore urged its northern groups to compile a detailed register of the Shamans which was to answer the following questions about each of them: What is the range of activity of the Shaman? Is he a family Shaman or does a larger group of people avail itself of his services? What speciality does he have? Is he a sea-Shaman accompanying fishermen on their expeditions? Is he a tamer of snowstorms? Does he claim to have any influence on the results of hunting? Is he engaged in healing reindeer and people? What sort of cult objects does he possess? Drums? Costumes? Does he hold collective séances? What is his social origin? Detailed information about these and other points was to be sent at least twice a year to the Central Council of Militant Godless, Moscow, Sretenka Street Nr 10.[20]

It does not seem that the League of Militant Godless had many people on the spot with a sufficient knowledge of folklore and anthropology to carry out the 'registration of the Shamans' and it is more than likely that the whole scheme failed. Other anti-Shaman measures were more successful. For instance, pressure was brought to bear on Shamans to give a solemn pledge that they would renounce their activities. Collective statements of several Shamans were even published in the local Press stating that in the past they had been 'wreckers' and 'cheaters.'[21] In other cases where such self-recriminations could not be obtained, Shamans were expelled from their tribal territory or arrested and put on trial. By arresting Shamans the Soviet authorities wanted to show the people that they did not fear their power and that Shamans were not protected by the spirits.

Notwithstanding all these measures of intimidation and persecution the Shamans were still a fairly important factor at the time of the adoption of the Stalin Constitution of 1936. When the constitution was subject to a nationwide discussion the Shamans once more showed their anti-Soviet bias and they did so again during the elections to the Supreme Soviets of the U.S.S.R. and the R.S.F.S.R. in 1937 and 1939 respectively. According to Oleshchuk, one of the leaders of the League of Godless, the Shamans tried 'to falsify the Soviet Constitution, undermine the elections and exploit the electoral campaign for counter-revolutionary aims.'[22]

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538 756 It would appear from Soviet evidence that Shamanism experienced a certain revival during the war. Shamans, it is alleged, cunningly used the temporary absence of young communist educated people from the tribal areas to regain some of their former influence. The novel of the well-known Soviet writer Azhaev, *Far from Moscow*, which refers to conditions in a Nanai village contains, for instance, the following passage: 'He (the Shaman) had lain low for a time but resumed his evil practices when war broke out. He saw his chance to profit from the war by a crafty and insolent device. Many of the Nanai boys of the village had been called to the colours. They wrote letters home from the front, and the Shaman made his "prophecies" by these letters. His clients were mostly old women anxious about the fate of their sons, and he fleeced and fooled them to the top of his bent.'[23]

Soviet novels about post-war conditions in the Far East try to convey the impression that the Shamans have ceased to be figures that are respected and feared. The Shamans of these novels are desperately isolated and universally despised. In one case the Shaman is even an enemy agent whom the Americans have sent from Alaska to provoke 'acts of diversion' among the natives of the Soviet Far East.

Some of the Soviet charges made against the Shamans coincide more or less with the criticism which a Western colonial administrator would direct against the African witch-doctors and juju-men. Western and Soviet administrators will, however, often differ as to the way in which the Shaman and the juju-man are to be fought. In West Africa, though not in East Africa, the fight against the juju-man is no more than a campaign of enlightenment in favour of a more hygienic way of life. In other words it is an aim in itself. The fight against the Shaman in the Soviet Far East and Far North is only a small part of a great struggle which is aimed at crushing every kind of political and religious opposition.

THE FIGHT AGAINST CHRISTIAN MISSIONS

797 779 661 In the Far East and Far North the régime fights religion on 'two fronts'. If the liquidation of Shamanism is one aim of communist anti-religious policy, the total prevention of Christian missionary activities is another.

Christianity has had a certain influence on the small nationalities of the Far East. Missionaries preaching the faith in a God who loves and helps man, have tried with some success to oust from the hearts of the natives that deep-rooted fear which is accompanied by belief in evil spirits. But the work of the missionaries was far from being finished when the Soviet authorities interrupted it. As it often happens in Africa, the superstitions of paganism survived even where the Church made formal converts. Those Lamuts of Kamchatka, for instance, who accepted the

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Christian faith, acquired Christian ikons, but did not want to part with 661 ●
their Shamanist idols. The same can be observed among other Far 779
Eastern and Far Northern aborigines. Many Christian converts wear 797
crosses around their necks, but, at the same time, have idols made of walrus bones and reindeer skin on their belts. Naturally the communists have thrown ridicule on this pagan-Christian dualism, which they have described as 'Shamanism-Orthodoxy', but it is an unavoidable transitory stage in the religious development of any primitive people. Certain sections of the northern tribes of Soviet Russia had been sufficiently Christianized at the time of the establishment of Soviet power to resent the forcible withdrawal of priests, and the removal from forests and ways of crosses which, in the popular belief gave protection against 'devils'. A protest lodged by a group of natives of the Beryozovo district in North-western Siberia was characteristic in this respect. The natives in question wrote a letter complaining that the local communist secretary did not allow them to have a priest. Their actual words were: We can't do without a priest because this is our faith.' ('My ne mozhem bez popa potomu chto vera nasha takaya'.) The letter of protest was printed in 1934 in *Revolyutsiya i Natsionalnosti*, the official organ of the Soviet of Nationalities as a general illustration of the fact that priests still enjoyed confidence in certain parts of the Far North.*

Today most of the Far Eastern tribes are outside the reach of those 661
reduced activities which are still permitted to the Russian Orthodox 779
Church in the U.S.S.R. Whilst churches are tolerated in old towns where their existence is traditional, it has been the consistent policy of the Soviet Government not to allow Christian houses of worship to be erected in the so-called 'socialist cities' which are the products of the Soviet period. In the Far East this applies to Magadan and Komsomolsk, places which among their polyglot population count quite a number of detribalized natives. Members of the two larger nationalities of the Soviet Far East, Yakuts and Buryat-Mongols, are, as far as they are converts to Christianity, in a better position than the members of the smaller tribes. There are churches in the capitals of Yakutia and Buryat-Mongolia and presumably also in other localities of these Republics. These are under the jurisdiction of the Metropolitan of Irkutsk and Chita, whose diocese is larger than the whole of Western Europe.

STALIN – THE SUN

Against Shamanism and Christianity the Soviet régime uses one and the 208
same metaphysical antidote – the Lenin-Stalin cult. In the territories of 773
the Far Eastern tribes this cult has a particularly colourful variant. It takes the form of folk-tales which depict Lenin and Stalin as 'super-

* *Revolyutsiya i Natsionalnosti*, Nr 53, July 1934, pp. 51–57.

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578 the idea of an American orientation and conducted a great deal of propaganda in the United States. A dispute broke out also among the Far Eastern communists as to the selection of the Republican capital. Those who stood for greater independence suggested that the capital should be established there where contact with the non-Russian world was most intimate, in Vladivostok. The Bolshevik Central Committee, on the other hand, realized the dangers inherent in such a move. It ruled that the headquarters of the Far Eastern government should be in the Russian city of Chita and not in the cosmopolitan port of Vladivostok.

Throughout its existence the F.E.R. had a very difficult time. Parts of the Republic were occupied by Japanese troops and others were the scene of white guard activities. Accordingly, the government of the F.E.R. exercised only a nominal sovereignty over certain of its provinces. Paradoxically enough, the Japanese occupation of the F.E.R. was not only the chief source of its weakness but also its principal *raison d'être*. The setting-up of the F.E.R. enabled the Russian Far Easterners, particularly the peasant colonists, to support Soviet foreign policy and the Soviet fight against foreign intervention without identifying themselves with the Communist Party and its economic aspirations. On October 25th, 1922, the last Japanese soldier left the Russian mainland and the need for a 'Far Eastern Republic' ceased automatically. The Constituent Assembly of the F.E.R., in which the communists had four-fifths of all seats, decided to hand over its powers to a 'Far Eastern Revolutionary Committee', the *Dalrevkom*, which was already a direct organ of the Soviet Government.

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646 The decision of the Far Eastern Constituent Assembly did not mean that the Russians of the Far East were in any way united behind the Communist Party. The communists constituted a minority in the Far East even smaller than anywhere else in Soviet Russia. Early in 1922 they had only 7,000 members in the whole of the F.E.R., and this was on the eve of a purge which aimed at a reduction of the membership by 15 to 18 per cent.[2] The Party relied on the support of a section of the 'Far Eastern Trades Union Congress' (D.V.S.P.S.) which had 40,000 members; but how many of them really sympathized with the communists it is impossible to say. In view of its numerical weakness and isolation the communist movement in the Far East had to go carefully and had to make some concessions to regionalist tendencies. Many people in the Russian Far East continued to favour a special status for their homeland and hoped that after the abolition of the F.E.R. it would not become just another Soviet Russian province. At the beginning their hopes were not entirely betrayed.

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185 578 Plan in three years. The later development showed that it took not three but ten years to reach the target figures which the first Five-Year Plan had fixed for the coal and oil production of the Far East.* The Central Government refused to admit that the shortcomings in the Far East resulted from deficiencies of all-Union planning, and tried to put the blame on local scapegoats who were charged with committing deliberate sabotage. More than that, the Central Government alleged that the Far Eastern administrators were 'Japanese spies', although they were, presumably, no more connected with Japan than the Leningrad opposition was linked with Germany. The Far Eastern communists, it is true, had shown great eagerness to establish commercial relations with other Pacific countries including Japan, but this had been done with the agreement of the centre.

THE PURGE OF THE 'CIVILIANS'

661 687 ●665 Although there was no evidence for charges of high treason the Soviet Government carried out a purge on a vast scale throughout the Soviet Far East. It would be incorrect to say that there was one big purge. There were at least two purges, one directed primarily against 'civilian' communists, and another aimed mainly at the army. The first purge, which was closely connected with economic shortcomings, started in the first months of 1937 and led to the disappearance of the head of the administration of the F.E.T., Krutov, and of the party secretary, Lavrentev. At the same time administrative heads and party officials were sacked all over the Soviet Far East. For many months there were no 'first secretaries' in many city committees and district committees of the Communist Party.

There is one aspect of the purge of the 'civilians' in the Far East which deserves special mention, the purge of the railwaymen. The railwaymen of the Far East were traditionally the backbone of the Communist Party in that distant part of the Soviet Union, and the solidity of Moscow's connection with the Pacific coastal areas depended largely on their efficiency. In the 'thirties' their job became increasingly difficult. Between 1933 and 1936 the freight turnover of the Far Eastern railways had increased three times. This was more than they could stand. The Far Eastern railway system broke down. A great many accidents occurred. The Government asserted that they were all engineered 'on instructions of the Japanese intelligence service.' The supreme responsibility for the wrecking of trains was officially attributed to Trotsky and to the

* Production of oil was to reach 464,000 tons by the end of the first Five-Year Plan in 1932. In 1933 output was 196,000 tons; in 1936, 308,000 tons, and in 1938, 360,000 tons. The coal target for 1932 was 4,000,000 tons. In 1933 output had reached 2,020,000 tons, and in 1936, 3,617,000 tons. The target for 1937 was 5,000,000 tons, but actual production in 1938 was only 4,750,000 tons.

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661 687 665 various members of the so-called 'Anti-Soviet Bloc of Rights and Trotskyites' which was allegedly led by Bukharin. In the Far East itself the Soviet Government staged a big trial of leading railway officials working on the Amur railway line, a sector of the Trans-Siberian railway. The trial took place in the town of Svobodny. All forty-four defendants were sentenced to death as 'Japanese spies'. They included the deputy head of the Amur railway line, the head of its planning department, the deputy head of the locomotive service and many other people of similar standing in the Far Eastern railway transport.[5] The sentence of Svobodny had considerable repercussions throughout the F.E.T. Sweeping changes took place not only in the top leadership of the Far Eastern railways but also among the rank and file of the railwaymen. Demobilized soldiers were rapidly trained for the railway and called upon to fill the gaps opened by the purges.

The man who, in 1937, carried out the purge in the Soviet Far East was a complete newcomer to the territory. His name was Vareikis, he was Lithuanian-born and had occupied various important positions in European Russia, as party secretary first of Voronezh and later of Stalingrad. He was also a member of the Central Committee of the Bolshevik Party. When he arrived in Khabarovsk in the spring of 1937 he seemed to possess the full confidence of Stalin, but by the end of the year he had lost it. He was charged with surrounding himself with spies and white guardists. A case in point was the editor of the largest Far Eastern newspaper *Tikhookeanskaya Zvezda* (Far Eastern Star), Shver, who was expelled from the party by a special decision of the Central Committee taken at the beginning of October.[6] Vareikis survived his friend only by a few days.

THE PURGE OF THE FAR EASTERN ARMY

661 701 The disgrace of Vareikis and his supporters carried the disintegration of the party apparatus in the Far East a step further. Only one important force continued to exist in the F.E.T., the Special Far Eastern Army and its commander, Marshal Vasily Konstantinovich Blyukher. But it was clear that this last bulwark of Far Eastern 'autonomism' would, sooner or later, be affected by the big Stalinist clean up of Russia's military leadership. One of the defendants of the Tukhachevsky trial of June 1937, the commander of the Byelorussian Military District, Uborevich, had had important connections with the Far East. In 1922 he had been the liberator of Vladivostok and he had stayed in the F.E.T. for several years. There was another military person who was closely linked with Stalin's Far Eastern opponents, Gamarnik, the chief of the Political Administration of the Red Army and an Assistant People's Commissar for Defence. Had he not committed suicide he would most

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167 241 Eastern border areas the government made concessions even in the economic sphere. In European Russia only collective farmers were at that time allowed to own a cow as their own personal possession, never industrial or transport workers.

KOMSOMOL COLONIZATION

167 665 883 The military colonization largely overlaps with another special form of colonization in the Soviet Far East, which is carried out with the help of the Communist Youth League, the Komsomol. The Youth League is the backbone of the Far Eastern units of the Soviet Army. Towards the end of the inter-war period 60 to 70 per cent of the soldiers in the Far East were Komsomol members. Hence among the demobilized soldiers, too, there must have been a good deal of 'Komsomol spirit'. The Komsomol influence in the Far East is, however, by no means confined to the army. The entire Soviet Far East has been described as a 'Komsomol Territory'. This is true both in the figurative and in the literal sense. The Soviet Far East is 'komsomolsky' because it is a young pioneer country, but the Komsomol, the Communist Youth League, is also directly connected with the Soviet Far East as one of the principal promoters of its colonization.

Many Communist Youth League members went to the Far East as individuals out of a spirit of adventure and also out of a feeling of patriotic duty. The Komsomol, as an organization, was responsible for two big spectacular actions. One was the foundation of the town Komsomolsk-on-Amur, the other was the movement initiated by Madame Khetagurova.

The history of Komsomolsk goes back to the spring of 1932 when the Central Committee of the Communist Youth League chartered two steamers, *Kolumb* and *Komintern*, which sailed with 400 young people, including a number of Civil War orphans, to the village of Permskoe on the Lower Amur. (The village had been founded as early as 1858 by Russian peasant colonists hailing from the region of Perm in the eastern part of European Russia.) Even the first small party of Komsomol members outnumbered the local population of 160 inhabi- [361] tants. In the second half of 1932 many more young people arrived, and in December of the same year the All-Russian Executive Committee published a decree which transformed Permskoe into the town of Komsomolsk. The decree read well in the Moscow newspapers, but to the young builders of Komsomolsk it must have appeared utterly unrealistic. At the time when the decree was published they were in a state of despair. The building of the town had had to be interrupted in view of the harshness of the Russian Far Eastern winter, and the inexperience of the new settlers had resulted in great complications. During

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

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Komitet'). The Tribal Committees of the lower order were later described as 'Native Soviets' ('Tuzsovety') of which there were 400 all over the Far East and Far North. The most remarkable fact about this tribal administration was that participation in tribal and native Soviets was not limited by class criteria.

This idyllic state of affairs could not last long. From one plenary meeting of the Committee of the North to the next the intransigence of its more radically minded members increased. In 1929 the Committee firmly decided to apply the principles of class struggle to the Far North, and from 1930 onwards, the tribal administration was abandoned. Regular organs of local government ranging from village Soviets to 'National Areas' ('Okrugs') were created instead. This meant in fact the end of the 'native reserves' which the Russian anthropologists had advocated in the early years of the Soviet régime. Under the new set-up Russian and other European Party and State officials were able to increase their influence in the running of native affairs. The natives were linked politically and administratively as closely as possible with the metropolitan territories of the U.S.S.R. In 1935, the Committee of the North itself was disbanded.

By the time of its abolition the Committee had lost a great deal of its previous importance. Many of its original duties had been taken over either by the Chief Administration of the Northern Sea Route, 'Glavsevmorput', or by local government organs. The Chief Administration of the Northern Sea Route, which had at its disposal a large staff of experts on nationalities problems, was originally launched as a body with extremely wide powers. Among other things, it was supposed to look after the well-being of the Far Northern tribes, direct cultural work among them, organize health services and help to promote their 'sovietization'. In the autumn of 1938 the Soviet Government decided that 'Glavsevmorput' could not carry out these tasks properly. A decree of the Council of People's Commissars stipulated that it was to hand over to the territorial administrations all enterprises and institutions which were not directly connected with the development of the Northern Sea Route.[2]

COMMUNIST ADMINISTRATORS

The abolition of the Committee of the North in 1935, and the curtailing of the powers of the 'Glavsevmorput' in 1938, increased the responsibilities of the administrative authorities and party organizations of Khabarovsk. It cannot be said that the latter have shown great enthusiasm for work in the National Areas and National Districts of the small nationalities. In fact, up to 1939 most of the officials posted to distant parts of the Far Eastern (later Khabarovsk) Territory went

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647 665 there as a punishment. People who were an embarrassment to the authorities, for one reason or another, were frequently sent to the Arctic regions as administrators and Party secretaries. Most cases of abuse of which such ill-suited administrators had been guilty in distant territories were hushed up, but occasionally they became public, as in the case of the Soviet Commander of the Wrangel Island,* which is part of the Chukcha National Area, and situated off its Arctic coast.

The commander, whose name was Semenchuk, had committed the most outrageous arbitrary acts against both Chukchi and Eskimos, the native population of the island. He and his assistant, Startsev, had caused the death of a number of natives, but the Wrangel Island scandal would probably not have come to light had they not also assassinated the local Russian doctor. The two Soviet administrators were brought to Moscow as defendants in a big trial in which Vyshinsky himself acted as prosecutor. A sixty-five page Vyshinsky speech contains an exhaustive description of the Semenchuk régime on Wrangel Island. Semenchuk's authoritarian idea of the role of a Soviet administrator in the land of the Chukchi and Eskimos was summarised in the following pronouncement which he had made. 'I am the GPU here; I am the court, I am the Public Prosecutor. I have the power of life and death.'

Semenchuk and Startsev were sentenced to death and executed in 1936, but it is still a mystery how the Soviet Government could entrust the strategically important Wrangel Island to an outright criminal. Semenchuk had been in prison for the theft of silver cutlery from the Soviet Embassy in Teheran shortly before being dispatched to the Far North.[3]

The case of Semenchuk and Startsev is obviously an extreme one. There is no reason to doubt that some of the administrators are ardent idealists, determined to improve living conditions and promote education among the local peoples. If we can believe the Secretary of the Department of Cadres of the Khabarovsk Territorial Committee of the Communist Party, there has been a better selection of administrators for the distant areas of the Far East since 1939. The secretary in question had promised in that year that Party posts in these territories would be given in future only to particularly trustworthy persons. He had said,

648 167 * Russian sovereignty over Wrangel Island was established only with some difficulty Both Canada and the United States had striven to attach the island which has an area of 2,700 square miles to their respective territories. The Canadians established their claim by wintering on the island from 1921. They reasserted it by hoisting the flag there in 1921, and in 1922 the Canadian Prime Minister solemnly proclaimed the annexation of the island in a statement before the Ottawa Parliament. The Soviet régime can rightly claim to have rescued Wrangel Island for Russia. In 1924 the crew of the Soviet gunboat 'Red October' took it over and expelled the only Canadian who lived there, together with a group of 'anti-Soviet' Eskimos, who, they asserted, were engaged in illegal hunting of fur animals. The Soviet authorities then brought their own colonists from the mainland, mostly Chukchi and Eskimos, with a few Russians.

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indeed, 'The further away we send a man, the more we must be able to trust him'.[4] It can be taken for granted that a man whom the Communist Party considers particularly trustworthy will be a hard-working official, and that he will not commit any crimes such as those of which Semenchuk and Startsev had been convicted. But a trustworthy communist is not necessarily a man who understands the mentality of the Far Eastern aborigines, and who deals with their problems in the best way.

NATIVES, STATE TRUSTS AND FORCED LABOUR

In addition to the Party and the territorial administration, there is a third influential factor in the Far East which has a great impact on the 'natives', namely the big State capitalist organizations of Kamchatka, Chukotka and the territories around the Okhotsk Sea. Instead of assisting and strengthening native economy the Soviet régime encouraged the growth of State companies such as the 'Kamchatka Limited Company' (later known as 'Glavkamchatrybprom' – Kamchatka Chief Administration for the Fishing Industry), the 'State Reindeer Trust', the 'Dalrybtrest' (Far Eastern Fishing Trust) and 'Soyuzpushnina', the State organization for fur trading. Soviet experts on the Far East themselves have admitted that these enterprises employed people who were guided by a 'narrow-minded business attitude' and who discharged their duties in a 'crudely materialistic way'. All they wanted was to fulfil the target figures of the state plan. They were not interested in assisting the natives either by supplying the most essential food commodities or by encouraging cultural work. The enterprises concerned, in particular the Kamchatka Company and the Reindeer Trust, seized land, and hunting and fishing grounds traditionally belonging to the natives. Even land owned by newly established collective farms of reindeer-breeders was arbitrarily confiscated by State trusts.[5]

Another State enterprise, the previously mentioned 'Dalstroy', which operates around the Okhotsk Sea, has also greatly affected the life of the 'natives' who live in its territory. The first director of Dalstroy, E. Berzin, pointed out in 1936 that the trust had opened schools and hospitals in all centres of the native population. The budget of the native communities ('National Districts') had increased almost ten times during five years.[6] What Berzin did not say was that the native schools and hospitals had been built with the profits which Dalstroy had made by exploiting forced labour. As a matter of fact, some of the schools of which Berzin boasted are 'mixed schools', which are attended both by natives and by children of convicts who were born in captivity and taken away from their mothers.[7] In the area controlled by the Dalstroy we thus meet the most sinister aspect of the 'Soviet nationalities policy', namely, its

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certainly have appeared in the Tukhachevsky trial. Gamarnik's presence in the Far East was frequently mentioned in the Soviet Press, the last time late in 1936, when he attended the autumn manœuvres of the OKDVA.[7] One of the last pictures which Soviet newspapers published of Gamarnik showed him with the Far Eastern deputies to the Eighth Congress of Soviets.[8] So there is no doubt that Gamarnik stood in close personal contact with some of the leading personalities of the F.E.T. It is possible that he had closer contacts with the civilian than with the military opposition in the Far East. This might explain why his fall from favour did not harm the Special Far Eastern Army directly, except for its political departments which were under Gamarnik's orders.[9] At any rate, the Tukhachevsky-Gamarnik *affaire* did not affect Blyukher's prestige immediately. Blyukher was even one of the judges who sent Tukhachevsky and his associates to the gallows: these judges, who also included Marshal Timoshenko and Marshal Budyonny, were officially referred to as 'the flower of our glorious army'.[10] In the months after the Tukhachevsky trial they served Bolshevik propaganda as examples that Stalin had not wiped out Russia'a entire military leadership.

It seems that in the winter of 1937–38, Blyukher and his army reached the culminating point of their power in the Far Eastern Territory. The influence of Blyukher and his army was particularly visible in the elections which took place in December 1937 for the Supreme Soviet of the U.S.S.R., the first to be held under the new Stalin Constitution. Out of the nine deputies which the F.E.T. sent to the Soviet of the Union four belonged to the OKDVA, including Blyukher himself and his deputy, Mikhail Karpovich Levandovsky, who commanded the troops of the maritime region around Vladivostok. The fifth deputy, a submarine commander, represented the Pacific Fleet.* The party, the administration and the N.K.V.D.† had one deputy each. Only the ninth deputy represented the common people. He was a Stakhanovite worker in the timber industry.

When the Soviet parliament met in January 1938 Blyukher was elected a member of its presidium. In the following month, on Red Army Day, he was awarded the 'Order of Lenin'. At the end of May a meeting of 6,500 workers and peasants nominated him as a candidate for the elections to the Supreme Soviet of the R.S.F.S.R.[11] Until the

* The Soviet Pacific Fleet was built up between 1932 and 1937. In the first years of the Soviet régime a Russian Pacific Fleet was as good as non-existent; until 1932 it included but one single gun-boat. Describing the situation at the time of the arrival in Vladivostok of the first Red Navy commander in the Pacific, M. V. Viktorov, *Pravda* said pointedly 'There was a commander, there was also a Pacific, but no Pacific Fleet' (*Pravda*, March 29th, 1937.) It was Viktorov's achievement to create a Soviet Pacific Fleet in a matter of four to five years. He too was eliminated in the big clean-up of 1937-38.

† The N.K.V.D., the People's Commissariat for Internal Affairs, later Ministry for Internal Affairs (M.V.D.) is the ministry responsible for the Soviet police.

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demanded, in particular, 'full liquidation' of all shortcomings in Far Eastern agriculture. The Third Five-Year Plan, therefore, aimed at an increase of the agricultural population of the Far East. About 100,000 new collective farmers were to settle down in the Khabarovsk Territory[25] alone.

The outbreak of the war prevented the full implementation of the resettlement plan, but it was, at least, successfully started. Russian peasants went to the Far East mainly from the Provinces of Kursk, Oryol, Voronezh, Ryazan, Stalingrad, Tambov and Penza. Kursk and Oryol seem to have led the migration movement. There was a great deal of propaganda for the resettlement plan and during a certain period almost every single issue of the Moscow newspapers carried a news-item showing how well those farmers had fared who had consented to go to the Far East, and how heartily they had been received there by the old-timers. The big All-Union Agricultural Exhibition which was opened in Moscow on the eve of the Second World War was likewise put into the service of the resettlement campaign. The Far Eastern pavilion of the exhibition illustrated, with the help of statistics and pictures, all the delights of peasant life east of Lake Baikal. In addition, the pavilion served as a convenient place for officially organized meetings at which collective farmers of the Chita Province, and the Khabarovsk and Maritime Territories talked to peasants of European Russia about the advantages of Far Eastern agriculture.[26] These propaganda efforts were not in vain. In fact, the resettlement plan for 1940 was already fulfilled by October of that year,[27] and numerous peasant settlers also went to the Far East in the first half of 1941, continuing to do so almost until the Hitlerite invasion of the Soviet Union.

Peasant colonization in the Far East was resumed after the war. Its precise extent is not known. Official Soviet sources have shrouded it in mystery and apparently consider it a military secret. In the absence of reliable statistics a rough, and not necessarily accurate, estimate about the increase in the population of the Soviet Far East can only be made by a comparison of the numbers of constituencies which were created for the elections of 1937, 1946 and 1950. There was hardly any change between 1937 and 1946. For the Supreme Soviet elections in 1937 the F.E.T. was subdivided into nine constituencies, each of them representing a theoretical population of 300,000. The total population of the Far East in the narrower sense (including Sakhalin) was, thus, 2,700,000. In 1946 the Khabarovsk and Maritime Territories comprised nine constituencies on the Asiatic mainland, whilst a tenth constituency was formed by Sakhalin and the Kurile archipelago. The total population of the Soviet Far East at the beginning of 1946 could, therefore, hardly have exceeded 2,700,000 on the Asiatic continent or 3,000,000, including the Soviet island possessions in the Pacific.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

185 578 Plan in three years. The later development showed that it took not three but ten years to reach the target figures which the first Five-Year Plan had fixed for the coal and oil production of the Far East.* The Central Government refused to admit that the shortcomings in the Far East resulted from deficiencies of all-Union planning, and tried to put the blame on local scapegoats who were charged with committing deliberate sabotage. More than that, the Central Government alleged that the Far Eastern administrators were 'Japanese spies', although they were, presumably, no more connected with Japan than the Leningrad opposition was linked with Germany. The Far Eastern communists, it is true, had shown great eagerness to establish commercial relations with other Pacific countries including Japan, but this had been done with the agreement of the centre.

THE PURGE OF THE 'CIVILIANS'

661 687 665 Although there was no evidence for charges of high treason the Soviet Government carried out a purge on a vast scale throughout the Soviet Far East. It would be incorrect to say that there was one big purge. There were at least two purges, one directed primarily against 'civilian' communists, and another aimed mainly at the army. The first purge, which was closely connected with economic shortcomings, started in the first months of 1937 and led to the disappearance of the head of the administration of the F.E.T., Krutov, and of the party secretary, Lavrentev. At the same time administrative heads and party officials were sacked all over the Soviet Far East. For many months there were no 'first secretaries' in many city committees and district committees of the Communist Party.

There is one aspect of the purge of the 'civilians' in the Far East which deserves special mention, the purge of the railwaymen. The railwaymen of the Far East were traditionally the backbone of the Communist Party in that distant part of the Soviet Union, and the solidity of Moscow's connection with the Pacific coastal areas depended largely on their efficiency. In the 'thirties' their job became increasingly difficult. Between 1933 and 1936 the freight turnover of the Far Eastern railways had increased three times. This was more than they could stand. The Far Eastern railway system broke down. A great many accidents occurred. The Government asserted that they were all engineered 'on instructions of the Japanese intelligence service.' The supreme responsibility for the wrecking of trains was officially attributed to Trotsky and to the

* Production of oil was to reach 464,000 tons by the end of the first Five-Year Plan in 1932. In 1933 output was 196,000 tons; in 1936, 308,000 tons, and in 1938, 360,000 tons. The coal target for 1932 was 4,000,000 tons. In 1933 output had reached 2,020,000 tons, and in 1936, 3,617,000 tons. The target for 1937 was 5,000,000 tons, but actual production in 1938 was only 4,750,000 tons.

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The man who, in 1937, carried out the purge in the Soviet Far East was a complete newcomer to the territory. His name was Vareikis, he was Lithuanian-born and had occupied various important positions in European Russia, as party secretary first of Voronezh and later of Stalingrad. He was also a member of the Central Committee of the Bolshevik Party. When he arrived in Khabarovsk in the spring of 1937 he seemed to possess the full confidence of Stalin, but by the end of the year he had lost it. He was charged with surrounding himself with spies and white guardists. A case in point was the editor of the largest Far Eastern newspaper *Tikhookeanskaya Zvezda* (Far Eastern Star), Shver, who was expelled from the party by a special decision of the Central Committee taken at the beginning of October.[6] Vareikis survived his friend only by a few days.

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701 the party apparatus in the Far East a step further. Only one important force continued to exist in the F.E.T., the Special Far Eastern Army and its commander, Marshal Vasily Konstantinovich Blyukher. But it was clear that this last bulwark of Far Eastern 'autonomism' would, sooner or later, be affected by the big Stalinist clean up of Russia's military leadership. One of the defendants of the Tukhachevsky trial of June 1937, the commander of the Byelorussian Military District, Uborevich, had had important connections with the Far East. In 1922 he had been the liberator of Vladivostok and he had stayed in the F.E.T. for several years. There was another military person who was closely linked with Stalin's Far Eastern opponents, Gamarnik, the chief of the Political Administration of the Red Army and an Assistant People's Commissar for Defence. Had he not committed suicide he would most

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patriarchal literature which has to be banned, and no cultural societies which have to be closed down because of bourgeois romanticism. Even so the small peoples of the Far East adhere, just as other peoples do, to their national traditions which are closely linked with those primitive religious beliefs usually summed up under the collective name of 'Shamanism'.

Shamanism is fundamentally the belief in good and bad spirits. The exact nature of the belief varies from one tribe to the other. The spirits may be deified animals, they may be ancestors, or they may simply be the forces of nature. Shamanism is not based on an elaborate ecclesiastical organization, but there are, nevertheless, mediators between spirits and ordinary human beings. These mediators are called Shamans. They enjoy a great deal of respect and prestige in the tribal society and this alone would have been sufficient reason to make them 'Enemy Number One' of the Soviet régime in all National Districts and National Areas inhabited by the Far Eastern aborigines.

The régime has charged the Shamans with many crimes, in particular with being dishonest and with consciously deceiving the people. This accusation has been contradicted by many Russian and foreign anthropologists who have had first hand experience of the Far Eastern Shamans. They have made the point that most Shamans sincerely believe in their superior power and are firmly convinced of their ability to cure the sick and to talk to spirits or to deceased relatives. It does not seem that Shamans charged more than moderate fees for their services if they demanded payment at all.[23] According to P. E. Petri, Professor of Ethnology at the Irkutsk University, it was completely erroneous to suggest that the majority of the Shamans were charlatans exploiting the credulity of the natives. For the Shaman, Petri wrote as late as 1928, his vocation constituted a heavy obligation which the spirits had imposed on him. The Shaman knew respite neither by day nor by night. He might at any time be called out and had then to travel dozens of miles in any weather. The Shaman was rarely at home and his household was therefore neglected. As a rule the Shamans were poor and only those living together with their brothers were better off.[24]

According to official Soviet evidence the Shamans engaged in 'mad resistance' to the extension of Soviet power to the north. They disseminated 'provocative rumours' aimed at inciting the tribesmen against the Russians. These charges against the Shamans are reflected in a number of novels which Soviet writers have written on life in the Far East. For example, Syomushkin's novel, *Alitet goes to the Hills*, records the collective resignation of the chairmen of the tribal Soviets in a part of Chukotka, as the result of the evil influences of one important Shaman. These chairmen gathered one day in the tent of the Russian secretary of the Communist Party and surrendered to him their letters of appoint-

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ment. They tried to get rid of these credentials as quickly as possible, because they were believed to be bearers of the evil spirit. The resigning chairmen suggested that the local Shamans should be appointed in their place, as they would be more successful in dealing with the spirits. The Party secretary refused to comply with this request, and, after a great deal of arguing, most of the chairmen agreed to retain their credentials, and to resume their jobs.[25] In the novel, *Where the Sukpai river flows*, by Kimonko, which deals with the life of the Udege people, the Shaman is both anti-Soviet and anti-Russian. He expresses his political philosophy in the following words:—'It is better to be doomed than to go to the Russians. The Russians will make soldiers out of us and destroy us to a man... The Russians and the Udege are different people. The man of the forest has laws of his own. One must abide by these laws.'[26]

The Shamans preserved their influence throughout the 'twenties' and early 'thirties'. They played an important part in the resistance movement against collectivization. In fact, the terms 'Shaman' and 'kulak' became interchangeable in the official Soviet vocabulary. But this is the usual simplification with which communist anti-religious propaganda operates. An official Soviet analysis referring to the social origin of 300 Shamans showed that between 50 and 60 of them came from poor families (bednota) and only 5 to 10 per cent were 'kulak elements'. More discriminating Soviet writers have stated therefore that Shamans whilst belonging to various social groups constituted 'a reactionary counter-revolutionary force taking sides with native kulaks and semi-feudal elements'.[27]

In addition to collectivization the Shamans obstructed practically every measure taken by the Government in the economic, cultural and sanitary fields. The target figures of the economic plans could not be fulfilled because the Shamans dissuaded the natives from fishing and hunting on certain days or from killing certain animals, for instance walrus. Soviet newspapers and journals were boycotted because the Shamans agitated against their dissemination. Also the new schools in the Far North and the 'kultbazy'* suffered from the sabotage of the Shamans. The latter persecuted and threatened the lives of Soviet teachers, particularly those of Russian nationality.[28] They hindered the re-education of the northern tribes to a more healthy and hygienic life, and intimidated people to such an extent that they did not dare even to go near a Soviet medical station.[29]

Although there is likely to be substance in most of these charges, they

* The 'kultbazy' or 'Cultural Stations' are political, cultural, and scientific research centres which the Soviet régime organized in the Far North. 'Cultural Stations' usually include a boarding school, a kindergarten, crèches, a hospital, a first-aid post, a veterinary station, a metereological station and even a museum. Most 'Cultural Stations' later developed into townships. Out of the fifteen 'Cultural Stations' three were founded in the Far East, one for the Koryaks, one for the Lamuts and the third for Chukchi and Eskimos.

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inhabitants of over forty-five European Russian gubernii participated in the colonization after the hardships of a long and complicated journey had been alleviated.[14] Migration to the Far East assumed a real mass character, particularly after the Russo-Japanese War, when numbers reached the record height of 76,637 in 1907. 167

The boom of the migration to the Far East in the last years of the Czarist régime made little difference to the magnitude of the task which the Soviet power had to face. This can be gathered from the fact that in 1926 the total number of inhabitants in the F.E.T. was still below the two million mark, and this included both Asiatics and Europeans. The number of Europeans alone did not exceed 1,600,000, including 1,531,000 representatives of the three main Slavonic peoples of the U.S.S.R. – Great Russians, Ukrainians* and Byelorussians. Thus, the Europeans of the Russian Far East were an insignificant factor compared with the masses of China and Japan living at Russia's doorstep. We shall see now by what means the Soviet Government tried to change the situation and what success it achieved in its endeavours.

COLONIZATION BY CONVICTS

Colonization by convicts is neither a Soviet nor a Russian invention. It has been practised elsewhere, for instance, in Australia, but there it came to an end in 1838. In Russia, more particularly in the Russian Far East, colonization by convicts is not only flourishing at the present time, but it may not even have reached its maximum expansion. Certain remote Soviet Far Eastern territories have absorbed especially high numbers of forced labourers. Consequently, the colonization of the vast area which forms the hinterland of the Okhotsk Sea is almost exclusively due to convicts working under the supervision of the M.V.D. (previously N.K.V.D.). 167 697 625

* According to the 1926 census the Ukrainians in the Far Eastern Territory numbered 315,000 and the Byelorussians 41,000. There are particularly important Ukrainian settlements near the town of Blagoveshchensk, as well as at several points along the railway line running from Khabarovsk to Vladivostok, parallel to the Chinese-Soviet border. The Soviet régime provided Ukrainian language schools for the Ukrainian settlers and founded as many as seventeen Ukrainian 'National Districts' in various parts of the F.E.T.

Ukrainian nationalists refer to the entire Soviet Pacific coastal area as the 'Green Wedge' (Zeleny Klin) as distinct from the 'Grey Wedge', which is the Ukrainian settlers' area in Northern Kirghizistan and Southern Kazakhstan. These nationalists are inclined to consider the Soviet Pacific region a Ukrainian and not a Russian national possession. Indeed, the *Ukrainian Encyclopedia*, published by Ukrainian scholars of Eastern Galicia during the inter-war period, described the 'Green Wedge' as a 'Ukrainian colony on the Pacific Ocean'. The *Encyclopedia* estimated that 30 per cent of the population of the 'Green Wedge' were Ukrainians, against 52 per cent 'Muscovites', i.e., Great Russians. (*Ukrainska Zagalna Entsiklopedia*. Lviv-Stanislaviv-Kolomiya, 1935, vol, ii, pp. 42–3.) The importance of the 'Ukrainian problem' in the Soviet Far East must not, however, be overestimated. The dividing line in the Far East does not run between the various groups of European colonists but between Europeans and Asiatics.

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connection with the forced labour system. A sparsely populated territory on the Kolyma River and around the Okhotsk Sea, which, not so long before, had been the home only of Eveni, Yakuts and other natives, had suddenly become an object of mass colonization by convicts, probably by as many as 400,000. The sudden emergence of huge forced labour camps in tribal territories was bound to have a considerable effect both on the way of life and on the moral outlook of the natives. It is only logical that the N.K.V.D.-M.V.D. should have tried to enlist the support of the natives against camp inmates trying to escape. Former political prisoners have even asserted that the N.K.V.D. pays the natives, either in cash or in the form of vodka, for every escaped person whom they capture.[8] This makes it understandable that the prisoners extend their contempt of the N.K.V.D. to the natives. They charge the authorities with 'coddling and pampering' them in the very areas in which many members of Russia's intelligentsia are gradually being exterminated.[9] It must be said in fairness that the N.K.V.D. is not the first Russian authority to discover that use can be made of Far Eastern natives against convicts from European Russia. The priority for this idea goes to the Czarist governor of Sakhalin Island, General Konotovich. Chekhov, mentioned in his book on Sakhalin that the General had ordered Gilyaks (Nivkhi) to be employed as guards for Russian criminals.

THE REINDEER PROBLEM

Lack of understanding of the 'natives' is manifested not only by the activities of the big State trusts, but also in the day-to-day work of Soviet officials in charge of 'native affairs'. Communist Party officials think in terms of ready-made patterns, and cut-and-dried formulae. They are usually convinced that what is good for Moscow and Vladivostok must be equally good for the most remote parts of the Union. This frame of mind makes it difficult for them to find the right approach to the special conditions of the Far North. Much could be said, for instance, about the peculiar way in which Soviet authorities have handled the basis of Far Northern economy, reindeer-breeding. As late as 1950, the Communist Party of a Siberian province sent large piles of pamphlets on sheep-farming and bee-keeping to the nomads living near the Arctic coast, where there are neither sheep nor bees – only reindeer.[10] This actually happened in North-western Siberia, but it could easily have happened in the Far East. The *Pravda* correspondent in Khabarovsk stated in 1947 that there was not a single specialist in problems of reindeer-breeding in the State and Party offices of that city, although the Khabarovsk Territory includes the largest reindeer population of any administrative unit in the Soviet Union.[11]

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It seems that in the winter of 1937–38, Blyukher and his army reached the culminating point of their power in the Far Eastern Territory. The influence of Blyukher and his army was particularly visible in the elections which took place in December 1937 for the Supreme Soviet of the U.S.S.R., the first to be held under the new Stalin Constitution. Out of the nine deputies which the F.E.T. sent to the Soviet of the Union four belonged to the OKDVA, including Blyukher himself and his deputy, Mikhail Karpovich Levandovsky, who commanded the troops of the maritime region around Vladivostok. The fifth deputy, a submarine commander, represented the Pacific Fleet.* The party, the administration and the N.K.V.D.† had one deputy each. Only the ninth deputy represented the common people. He was a Stakhanovite worker in the timber industry.

When the Soviet parliament met in January 1938 Blyukher was elected a member of its presidium. In the following month, on Red Army Day, he was awarded the 'Order of Lenin'. At the end of May a meeting of 6,500 workers and peasants nominated him as a candidate for the elections to the Supreme Soviet of the R.S.F.S.R.[11] Until the

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end of July, Blyukher still appeared in public and was still in command in the Soviet Far East, but two rather strange things had happened. First, a carefully prepared party conference of the OKDVA, which was scheduled for the beginning of June, was cancelled at the last minute; and secondly, the OKDVA itself was suddenly renamed 'Far Eastern Front' ('Dalnevostochnii Krasnoznamyonnii Front'). The change occurred between July 5th and 6th, and must have greatly puzzled the Soviet public, which was as familiar with the initials 'OKDVA' as with U.S.S.R., N.K.V.D. and R.S.F.S.R.

The actual disappearance of Blyukher coincides with some major border incidents which the Japanese provoked on Lake Khasan during the last days of July and the beginning of August. The Soviet armed forces remained in control of the situation and killed over 400 Japanese. On the whole the incident on Lake Khasan was rather welcome to the Kremlin, for it gave the government the opportunity to prove that the efficiency of the army was not impaired by the purge. Moreover, the [208] 'defeat of the samurais', as official propaganda styled the historic episode on the Manchurian border, supplied the pretext for a big campaign to strengthen the morale of the Soviet rear. All over the Soviet Union meetings were held in factories, collective farms and offices protesting against the Japanese aggression and sending greetings to the Soviet armed forces who were watching over the security of the Far Eastern borders. None of the resolutions adopted at these meetings contained the slightest reference to the once so popular Marshal Blyukher. The press gave all the credit for the speedy liquidation of the Khasan Lake incident to rank and file soldiers and junior officers, as if no general had been connected with the operation. Only considerably later was the new commander in the Far East mentioned – Grigory Mikhailovich Shtern.[12]

What happened to Blyukher and why it happened was never officially stated, except, perhaps, for some general cryptic remarks made by the Head of the Political Administration of the Red Army, Mekhlis, and by Blyukher's successor. The former told the party conference of the 'First Separate Army',* in September 1938, that the plotters among the party members of the Far Eastern Army had been 'smashed and destroyed'. Shtern was a little more explicit when, in addressing the Eighteenth Party Congress, he referred to 'traitors, spies and monsters' who had infiltrated into responsible positions in the Far Eastern armies.

The disgrace of the Marshal was not a local event of the Soviet Far East, but one of national importance for Soviet Russia. Blyukher was a potential Russian Bonaparte, more dangerous to Stalin than even

* The 'First Separate Army' ('Pervaya Otdelnaya Krasnoznamyonnaya Armiya') was a new name for the purged OKDVA, the term 'Far Eastern Front' being used for a few weeks only.

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Marshal Tukhachevsky. The latter was primarily a soldier, but Blyukher was both soldier and political leader. Unlike Tukhachevsky, Blyukher was of proletarian origin – he had started life as a shop-assistant in St. Petersburg and had later become a metalworker – and his popularity with the Russian working class was secure. Unlike Tukhachevsky, Blyukher had suffered under the Czarist régime. He had joined the Bolshevik Party a whole year before the October Revolution, early enough to lay claim to the once so honourable title of 'Old Bolshevik'. Although only a private in the Czarist army in which Tukhachevsky had served as an officer, Blyukher emerged as one of the great military commanders of the young Soviet State during the Civil War. In 1918, by his remarkable expedition across the Ural mountains, he secured the victory of the Revolution on what was then the 'Eastern Front'. For this outstanding feat he was awarded the Order of the Red Banner. He was the first person to receive this decoration.[13]

Blyukher's association with the Soviet Far East, which became the main reason for his prominence, started in 1921. He commanded that heroic march to the Pacific Ocean which included such momentous events of the Russian Civil War as the storming of the heavily fortified white-guard stronghold, Volochayevka, the capture of Khabarovsk, and the final liquidation of Japanese intervention.

For Russia as a whole the elimination of Blyukher meant that Stalin's last potential competitor, a man who might have easily become more popular than he, had gone. For the Soviet Far East it meant the end of a historic period and it also resulted in a rewriting of its past history. Naturally, Blyukher's real historic feats remained unchanged, but the régime did its best to strike his name from history as it lives on in the minds of the people, particularly in the minds of the rising generation. It is difficult to write the history of the Soviet Far East up to 1938 without mentioning Blyukher, but Stalin's historians have achieved this task. Blyukher's name is now left out of all accounts of the Russian Civil War. The first edition of the *Large Soviet Encyclopedia*, in its volume, Number 6, which was published in 1930, described Blyukher as 'one of the outstanding personalities of the Red Army'. The second edition of the *Large Soviet Encyclopedia*, which was published after the Second World War, did not mention him at all.

THE TRIUMPH OF THE N.K.V.D.

The reorganization of the 'Special Far Eastern Army' and the disgrace of its commander were followed by the abolition of the Far Eastern Territory. It may be argued that this latter measure was not especially prompted by the peculiarities of the situation in the Far East. The Soviet Government had gradually abolished all the original large

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certainly have appeared in the Tukhachevsky trial. Gamarnik's presence in the Far East was frequently mentioned in the Soviet Press, the last time late in 1936, when he attended the autumn manœuvres of the OKDVA.[7] One of the last pictures which Soviet newspapers published of Gamarnik showed him with the Far Eastern deputies to the Eighth Congress of Soviets.[8] So there is no doubt that Gamarnik stood in close personal contact with some of the leading personalities of the F.E.T. It is possible that he had closer contacts with the civilian than with the military opposition in the Far East. This might explain why his fall from favour did not harm the Special Far Eastern Army directly, except for its political departments which were under Gamarnik's orders.[9] At any rate, the Tukhachevsky-Gamarnik *affaire* did not affect Blyukher's prestige immediately. Blyukher was even one of the judges who sent Tukhachevsky and his associates to the gallows: these judges, who also included Marshal Timoshenko and Marshal Budyonny, were officially referred to as 'the flower of our glorious army'.[10] In the months after the Tukhachevsky trial they served Bolshevik propaganda as examples that Stalin had not wiped out Russia'a entire military leadership.

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patriarchal literature which has to be banned, and no cultural societies which have to be closed down because of bourgeois romanticism. Even so the small peoples of the Far East adhere, just as other peoples do, to their national traditions which are closely linked with those primitive religious beliefs usually summed up under the collective name of 'Shamanism'.

Shamanism is fundamentally the belief in good and bad spirits. The exact nature of the belief varies from one tribe to the other. The spirits may be deified animals, they may be ancestors, or they may simply be the forces of nature. Shamanism is not based on an elaborate ecclesiastical organization, but there are, nevertheless, mediators between spirits and ordinary human beings. These mediators are called Shamans. They enjoy a great deal of respect and prestige in the tribal society and this alone would have been sufficient reason to make them 'Enemy Number One' of the Soviet régime in all National Districts and National Areas inhabited by the Far Eastern aborigines.

The régime has charged the Shamans with many crimes, in particular with being dishonest and with consciously deceiving the people. This accusation has been contradicted by many Russian and foreign anthropologists who have had first hand experience of the Far Eastern Shamans. They have made the point that most Shamans sincerely believe in their superior power and are firmly convinced of their ability to cure the sick and to talk to spirits or to deceased relatives. It does not seem that Shamans charged more than moderate fees for their services if they demanded payment at all.[25] According to P. E. Petri, Professor of Ethnology at the Irkutsk University, it was completely erroneous to suggest that the majority of the Shamans were charlatans exploiting the credulity of the natives. For the Shaman, Petri wrote as late as 1928, his vocation constituted a heavy obligation which the spirits had imposed on him. The Shaman knew respite neither by day nor by night. He might at any time be called out and had then to travel dozens of miles in any weather. The Shaman was rarely at home and his household was therefore neglected. As a rule the Shamans were poor and only those living together with their brothers were better off.[26]

According to official Soviet evidence the Shamans engaged in 'mad resistance' to the extension of Soviet power to the north. They disseminated 'provocative rumours' aimed at inciting the tribesmen against the Russians. These charges against the Shamans are reflected in a number of novels which Soviet writers have written on life in the Far East. For example, Syomushkin's novel, *Alitet goes to the Hills*, records the collective resignation of the chairmen of the tribal Soviets in a part of Chukotka, as the result of the evil influences of one important Shaman. These chairmen gathered one day in the tent of the Russian secretary of the Communist Party and surrendered to him their letters of appoint-

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

ment. They tried to get rid of these credentials as quickly as possible, because they were believed to be bearers of the evil spirit. The resigning chairmen suggested that the local Shamans should be appointed in their place, as they would be more successful in dealing with the spirits. The Party secretary refused to comply with this request, and, after a great deal of arguing, most of the chairmen agreed to retain their credentials, and to resume their jobs.[25] In the novel, *Where the Sukpai river flows*, by Kimonko, which deals with the life of the Udege people, the Shaman is both anti-Soviet and anti-Russian. He expresses his political philosophy in the following words:—'It is better to be doomed than to go to the Russians. The Russians will make soldiers out of us and destroy us to a man. . . The Russians and the Udege are different people. The man of the forest has laws of his own. One must abide by these laws.'[26]

The Shamans preserved their influence throughout the 'twenties' and early 'thirties'. They played an important part in the resistance movement against collectivization. In fact, the terms 'Shaman' and 'kulak' became interchangeable in the official Soviet vocabulary. But this is the usual simplification with which communist anti-religious propaganda operates. An official Soviet analysis referring to the social origin of 300 Shamans showed that between 50 and 60 of them came from poor families (bednota) and only 5 to 10 per cent were 'kulak elements'. More discriminating Soviet writers have stated therefore that Shamans whilst belonging to various social groups constituted 'a reactionary counter-revolutionary force taking sides with native kulaks and semi-feudal elements'.[27]

In addition to collectivization the Shamans obstructed practically every measure taken by the Government in the economic, cultural and sanitary fields. The target figures of the economic plans could not be fulfilled because the Shamans dissuaded the natives from fishing and hunting on certain days or from killing certain animals, for instance walrus. Soviet newspapers and journals were boycotted because the Shamans agitated against their dissemination. Also the new schools in the Far North and the 'kultbazy'* suffered from the sabotage of the Shamans. The latter persecuted and threatened the lives of Soviet teachers, particularly those of Russian nationality.[28] They hindered the re-education of the northern tribes to a more healthy and hygienic life, and intimidated people to such an extent that they did not dare even to go near a Soviet medical station.[29]

Although there is likely to be substance in most of these charges, they

* The 'kultbazy' or 'Cultural Stations' are political, cultural, and scientific research centres which the Soviet régime organized in the Far North. 'Cultural Stations' usually include a boarding school, a kindergarten, crèches, a hospital, a first-aid post, a veterinary station, a metereological station and even a museum. Most 'Cultural Stations' later developed into townships. Out of the fifteen 'Cultural Stations' three were founded in the Far East, one for the Koryaks, one for the Lamuts and the third for Chukchi and Eskimos.

1: Kolarz J-4 (no date) 1954 RR1 Siberia KR1

have probably been exaggerated, partly to serve as an excuse for the inefficiency of Soviet administration and partly as a pretext for the anti-Shaman measures taken by the régime. The fight against the Shamans took the same forms as the campaign against other religions of the Soviet Union, ranging from ordinary anti-religious propaganda to administrative terror. The Far Northern cells of the League of Militant Godless were in charge of the former. In view of the complicated character of Shamanism it was no easy affair to combat it and a more thorough picture of its regional diversities had first to be obtained. The League of Militant Godless therefore urged its northern groups to compile a detailed register of the Shamans which was to answer the following questions about each of them: What is the range of activity of the Shaman? Is he a family Shaman or does a larger group of people avail itself of his services? What speciality does he have? Is he a sea-Shaman accompanying fishermen on their expeditions? Is he a tamer of snowstorms? Does he claim to have any influence on the results of hunting? Is he engaged in healing reindeer and people? What sort of cult objects does he possess? Drums? Costumes? Does he hold collective séances? What is his social origin? Detailed information about these and other points was to be sent at least twice a year to the Central Council of Militant Godless, Moscow, Sretenka Street Nr 10.[30]

It does not seem that the League of Militant Godless had many people on the spot with a sufficient knowledge of folklore and anthropology to carry out the 'registration of the Shamans' and it is more than likely that the whole scheme failed. Other anti-Shaman measures were more successful. For instance, pressure was brought to bear on Shamans to give a solemn pledge that they would renounce their activities. Collective statements of several Shamans were even published in the local Press stating that in the past they had been 'wreckers' and 'cheaters.'[31] In other cases where such self-recriminations could not be obtained, Shamans were expelled from their tribal territory or arrested and put on trial. By arresting Shamans the Soviet authorities wanted to show the people that they did not fear their power and that Shamans were not protected by the spirits.

Notwithstanding all these measures of intimidation and persecution the Shamans were still a fairly important factor at the time of the adoption of the Stalin Constitution of 1936. When the constitution was subject to a nationwide discussion the Shamans once more showed their anti-Soviet bias and they did so again during the elections to the Supreme Soviets of the U.S.S.R. and the R.S.F.S.R. in 1937 and 1939 respectively. According to Oleshchuk, one of the leaders of the League of Godless, the Shamans tried 'to falsify the Soviet Constitution, undermine the elections and exploit the electoral campaign for counter-revolutionary aims.'[32]

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

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It would appear from Soviet evidence that Shamanism experienced a certain revival during the war. Shamans, it is alleged, cunningly used the temporary absence of young communist educated people from the tribal areas to regain some of their former influence. The novel of the well-known Soviet writer Azhaev, *Far from Moscow*, which refers to conditions in a Nanai village contains, for instance, the following passage: 'He (the Shaman) had lain low for a time but resumed his evil practices when war broke out. He saw his chance to profit from the war by a crafty and insolent device. Many of the Nanai boys of the village had been called to the colours. They wrote letters home from the front, and the Shaman made his "prophecies" by these letters. His clients were mostly old women anxious about the fate of their sons, and he fleeced and fooled them to the top of his bent.'[33]

Soviet novels about post-war conditions in the Far East try to convey the impression that the Shamans have ceased to be figures that are respected and feared. The Shamans of these novels are desperately isolated and universally despised. In one case the Shaman is even an enemy agent whom the Americans have sent from Alaska to provoke 'acts of diversion' among the natives of the Soviet Far East.

Some of the Soviet charges made against the Shamans coincide more or less with the criticism which a Western colonial administrator would direct against the African witch-doctors and juju-men. Western and Soviet administrators will, however, often differ as to the way in which the Shaman and the juju-man are to be fought. In West Africa, though not in East Africa, the fight against the juju-man is no more than a campaign of enlightenment in favour of a more hygienic way of life. In other words it is an aim in itself. The fight against the Shaman in the Soviet Far East and Far North is only a small part of a great struggle which is aimed at crushing every kind of political and religious opposition.

THE FIGHT AGAINST CHRISTIAN MISSIONS

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In the Far East and Far North the régime fights religion on 'two fronts'. If the liquidation of Shamanism is one aim of communist anti-religious policy, the total prevention of Christian missionary activities is another.

Christianity has had a certain influence on the small nationalities of the Far East. Missionaries preaching the faith in a God who loves and helps man, have tried with some success to oust from the hearts of the natives that deep-rooted fear which is accompanied by belief in evil spirits. But the work of the missionaries was far from being finished when the Soviet authorities interrupted it. As it often happens in Africa, the superstitions of paganism survived even where the Church made formal converts. Those Lamuts of Kamchatka, for instance, who accepted the

10: Laufer--361 E-3 (no date) 1917 Northeast Asia
116, 756, 121

"ORIGIN OF THE WORD SHAMAN

In Chinese Clay Figures (p.198) the writer had occasion to discuss briefly the history of our word shaman, and to refer at the close of his naturally succinct note to the new theory of J. Németh, according to which the term should be an ancient constituent of the Turkish-Tungusian languages. The latter reference was an addition inserted in the proofs at the moment when Mr. Németh's article reached me (summer 1914), but since then it has been possible to scrutinize his theory af close range, with the result that it can be confirmed and even be supported with new data and arguments. As ethnologists may be expected to take an interest in the history of a term which has become part and parcel of anthropological nomenclature, and the origin of which has given rise to numerous discussions and speculations, a brief examination of the case might not be unwelcome to the readers of the Anthropologist."

10: Laufer-- 361 [2] E-3 (no date) 1917 Northeast Asia
116, 197, 756

"There could never be a serious doubt of the real source from which the word shaman is derived. We received it from the Russians; it was the Russian (chiefly Cossack) explorers and conquerors of eastern Siberia in the second half of the seventeenth century, who heard and recorded the term among Tungusian tribes. It was first brought to Europe by the Hollander, E. Ysbrants Ides, and by Adam Brand, who from 1692 to 1695 accompanied a Russian embassy sent by Peter the Great to China."

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-1-12
116, 197, 756, 114

" It is thus shown that our 'shaman' had its origin in the Tungusian languages, in all of which the word indeed is known as šaman or saman, and with several other variations to be noted hereafter. It would be reasonable to regard the term as of native origin, for it is not likely that the name of a religious institution and function so characteristic of all the tribes of northern Asia should be borrowed from an outside quarter. Nevertheless it was possible that at a time when little was known about Siberian shamanism, and when rigid philological principles were not yet established, the theory could be advanced that Tungusian saman or saman were to be derived from the Chinese šа-men, itself a transcription of Pali samana corresponding to Sanskrit cramana, a technical term for the designation of a Buddhist monk or ascetic. The germ of this idea was well prepared as early as the eighteenth century. The Augustinian Pater A. Georgi(1) states correctly

1. Alphabetum Tibetanum (Rome, 1762), p. 222.

that the Samanaei mentioned by Clemens Alexandrinus(2)are the adherents of Buddha,

2. In fact Clemens avails himself of the form Sarmanai.

and in this connection refers to La Croze, who already hazarded the combination of the

Samanaei with the shamans of the Tungusians (le nom de schaman est un nom de religion d'un peuple tartare, voisin des frontieres de la Chine'). Sanskrit not yet being well known at the time of La Croze and Georgi, the origin of the Greek term Samanaioi escaped them; this is what the philologists of the nineteenth century supplied. (3)

3. Maturin Veyssiere La Croze was born at Nantes in 1661, joined the clergy, suffered persecution on account of his liberal views, fled to Germany, where he turned a Protestant in 1696, and was made a member of the Academy of Sciences of Berlin, where he died in 1739. His work Histoire du Christianisme des Indes, to which Georgi refers, unfortunately is not accessible to me. La Croze was a scholar of wide knowledge and linguistic ability: he was the first who had a presentiment of the relationship of Indian with Persian.

Which of them was the first to assert the connection of the Siberian šaman with the Indian term I am unable to ferret out; this point is immaterial, as the question is merely that of the history of an error. D. Banzarov(4) was inclined, without giving a specific

4. Černaya v'ära, p. 34 (see p. 366).

reference, to fix the responsibility on F. Schlegel, according to whom[363]the çramana among the crude tribes of Central Asia transformed themselves from hermits into shamans. I believe that Banzarov had in mind Friedrich von Schlegel (1772-1829), romantic poet and Sanskrit scholar, who published in Heidelberg, 1808, an essay under the title Über die Sprache und Weisheit dor Indier, ein Beitrag zur Begründung der Alterthumskunde. (1) This is the only one of his works in which such a statement might be

1. An English translation was edited in London, 1889, in F.v. Schlegel's Aesthetic and Miscellaneous Works.

supposed to occur, but on a cursory perusal of this book I am unable to trace it. The idea itself being romantic, there would be no reason to wonder that it took its root in the Romantic School. At all events it was alive in the first part of the nineteenth century. The French sinologue J.-P Abel-Rémusat(1788-1832)became a champion of this theory.(2)

2. Recherches sur les langues tartares (Paris, 1820), p. 133, and Observations sur la doctrine samanéenne et la triade suprême (Paris, 1831).

An ingenious scholar of the type of J. Klaproth (3) was capable of saying, 'Les peuples

3. Mémoires relatifs á l'Asie (Paris, 1828), vol. III, p. 67.

tartares ont sans doute reçu le mot chaman de l'Inde avec le bouddhisme, car il est Indien d'origine, et signifie un homme qui a vaincu toutes ses passions.' In 1857 Max Müller(4)

4. Chips from a German Workshop, vol. I, pp. 233-234.

of Oxford wrote,

> Shamanism found its way from India to Siberia via Tibet, China, and Mongolia. Rules on the formation of magic figures, on the treatment of diseases by charms, on the worship of evil spirits, on the acquisition of the supernatural powers, on charms, incantations, and other branches of Shaman witchcraft, are found in the Tanjur or the second part of the Tibetan canon, and in some of the late Tantras of the Nepalese collection.

Needless to add that the magical writings of the Tanjur are unknown to the shamans of Siberia and have nothing to do with Siberian shamanism. Still less is it intelligible how Müller could say that ' the only trace of the influence of Buddhism among the Chudic races, the Finn, Lapp, etc., is found in the name of their priests and sorcers, the

shamans.' The word shaman is foreign to any Finno-Ugrian language; it found its way into Finnish (shamani) and Hungarian as a scientific term only, in the same [364] manner as into the Indo-European languages. A. H. Sayce (1) has the following;

1. Introduction to the Science of Language, vol. II, p. 293

> In shamanism, so called from the Shaman or Siberian sorcerer, who is himself but a transformed cramana, or Buddhist missionary priest, we rise to a higher conception of religion.
>
> These superstitions were tenaciously upheld under the influence of the romantic movement of the pan-Indianism, which held the minds of scholars enthralled in the first part of the nineteenth century, and the germs of which are not yet entirely exterminated.
>
> True it is that the Sanskrit word cramana with the Prākrit form samana has become widely known outside of the pale of India. It reached the ears of the Greek writers on India, who described the Buddhist monastics under such names as Sarmanes, Sarmanai, or Samanaioi. The first of these names was recorded by Megasthenes, (2) though the

2. Strabo XV, I, 59.

aingle text of Strabo from which all the existing codices have been copied offers the

erroneous transcription Garmanes. (3) The word has also passed into early Arabic

3. The texts in question are easily accessible in J. W. McCrindle, Ancient India as described in Classical Literature, pp. 65, 168, 170. See further C. Lassen, 'De nominibus quibus a veteribus appellantur Indorum philosophi,' in Rhein. Museum für Philol., vol. I, 1833. pp. 178-180, and Indische Alterthumskunde, vol II, p. 700; E. Burnouf, Introduction à l'histoire du Buddhisme indien, p. 245; T. Watters, Essays on the Chinese Language, p. 403; S. Levi, Journal asiatique (1911), I, p. 445.

records for the designation of the Indian and Bactrian Buddhists (for instance, in Masūdi, Gurdezi, and Abu'l Faradj) in the form samaniyya, while in later literature the form śaman was adopted. (4) In Firdausi's Shāhnāme, completed in A. D. 1010, we

4. Geza Kuun, Keleti Szemle, vol. IV, 1903, p. 133; G. Ferrand, Textes géographiques arabes relatifs à l'Extreme-Orient, vol. I, p. 131. The Mohammedan writers were perfectly conscious of the fact that the term hailed from India and denoted the

Buddhists of India and China. See particularly D. Chwolsohn, Die Ssabier und der Ssabismus (St. Petersburg, 1856) vol. I. pp. 165, 214, 217, etc. As far as I know, the shamanistic religion of Siberian tribes is not mentioned by any early Arabic or Persian author.

find saman in the sense of a worshipper of idols, and this Persian word likewise is traced to Sanskrit çramana and its congeners. (5) Again, it bears no relation to 'our'

5. P. Horn in Grundriss der iranischen Philologie, vol. I, pt. 2, p. 7; K. Vullers (Lexicon persico-latinum, vol. I, p. 466) renders the term by idololatra and idolum.

or the [365] Siberian shaman but evidently refers to Indian Buddhists, for these šamans say 'Our religion is one of peace and quiet, and fighting and slaying is prohibited, as well as all kinds of shedding of blood.' (1) Finally the Indian word has been traced in the

1. Compare the quotation in H. Yule, Hobson-Jobson, P. 820.

newly discovered Indo-European language styled Tokharian in the form samāne; and

this induced A. Meillet to formulate the opinion that the Tokharian form (not a Prakrit form of Sanskrit çramana) would account for the Tungus word saman. (2) With all

2. A. Meillet, 'Le Tokharien,' Indogermanisches Jahrbuch (Strasburg, 1914), vol. I, p. 19.

respect due to the scholarship of this eminent philologist it must be admitted, however, that there is a far cry from Tokharian to Tungusian, that there is no evidence for any contact of these two groups, and that the Tungus notion of a shaman is radically different from the conception of a Buddhist monk. If two words in geographically remote languages are physically alike or similar, but fundamentally diverse in meaning, it is safe to assume that the face resemblance is purely accidental.

Indeed this theory was brilliantly antagonized as early as 1842 by W. Schott, and H. Yule, (3) accepting his verdict, reached the conclusion, 'Whether the Tungus word is

3. Hobson-Jobson, p. 820

in any way connected with this or adopted from it [that is the Sanskrit-Pali term], is a doubtful question. 'Schott has devoted no less than three studies to this

problem (4) in which he endevored to dissociate saman from samana. His arguments

> 4. 'Über den Doppelsinn des Wortes Schamane und über den tungusischen Schamanen-Cultus am Hofe der Mandju-Kaiser,' Abhandlungen Berliner Akademiæ, 1842, pp. 1-8; 'Wohin gehört das Wort Schamane?' in his Altaische Studien, no. 3, ibid., 1867, pp. 138-141; and 'Das Wort Schamane,' in Erman's Archiv fur wissenschaftliche Kunde von Russland, vol. XXIII, 1865, pp. 207-210.

are briefly as follows: the Chinese strictly descriminate between Manchu saman (shaman) and Sanskrit çramana, and never confound a shaman and a Buddhist monk, the two having totally diverse functions; a direct or indirect connection of Tungusian tribes with India is unproved; Buddhist missionaries never advanced into regions inhabited by Tungus[5] [366]

> 5. As emphasized in my article 'Burkhan,' Journal American Oriental Society (1917), pp. 390-395, there is no trace of Buddhism in the religion of the Tungusian peoples on the Amur.

it would be strange if they should have borrowed the only word in their language for the designation of their national priests; the forms of shamanism are uniform in a vast

territory extending from Lappland to the Bering Sea and far beyond into America; Vasilyev's hypothesis that shamanism should be a caricature of ancient Buddhist sorcery and jugglery and have been brought into existence by such influences is a mere phantom; the outward resemblance of the words saman and samana is purely fortuitous. Schott's etymological explanations of the word from Samoyed are not convincing, but his remark that Tungusian sam possibly is anciently related to Turkish kam testifies to great foresight and ingenuity; and this thesis, as will be seen, can now really be proved. Also Ch. de Harlez (1) joined the ranks of the adversaries of the Indian hypothesis, reiterating in

1. La Religion nationale des Tartares orientaux (Bruxelles, 1887), p. 28.

the main Schott's arguments. In Russia, it had been severely criticized as far back as 1846 by Dordji Banzarov, a Buryat and an excellent Mongol scholar. (2) Nevertheless

2. His works were collected and edited by Potanin in 1891 under the title Cernaya v'ara ili samanstvo u Mongolov i drugiya stat'i ('The Black Faith or Shamanism among the Mongols and Other Articles'). Regarding the word shaman see p. 34.

in Russian dictionaries also the nightmare of the cramana is perpetuated. (3) As it

3. For instance, in Gor'aev, Sravnitelny etimologiceski slovar' russkago yazyka, p. 418.

happens, twilight reveries appeal more to the multitude than plain reason and continue to live even if abandoned by the thinking minority; it is not always the best and fittest that survives. The ghost of the Indian çramana still haunts the poor shaman in our standard dictionaries and cyclopaedias (see Webster, Nouveau Larousse, and Littre, Dictionnaire de la langue française; Schaff-Herzog Religious Encyclopedia, vol. X, p. 385; Funk and Wagnalls' Dictionary offers even a 'Persian-Hindustani shaman, pagan'!) (4) It is a relief, therefore, to read in the new Oxford Dictionary,

4. Even in the 7th edition of O. Pexchel's Völkerkunde (p. 274) the cramana still holds way.

The Persian shemen, idol, idol temple, sometimes cited as the source, is unconnected. Evidence seems to be wanting for the plausible suggestion that the Mongolian word is an adoption of Chinese sha men, an ordained member of a Buddhist fraternity.

10: Laufer--362-367 E-3 (no date) 1917 Northeast Asia-12
116, 197, 756, 114

Eliminating 'plausible' and substituting 'Tungusian' for [367] 'Mongolian' this statement marks a progress in lexicographical literature. So there is hope that our great-grandchildren will perhaps be treated to a correct definition in the dictionaries of the following century."

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-1-4
116, 114, 171, 197, 756

"The Hungarian scholar J. Németh (1) has attacked the problem in the right spirit,

1. 'Über den Ursprung des Wortes Šaman und einige Bemerkungen zur türkischmongolischen Lautgeschichte,' Keleti Szemle, vol. XIV, 1913-14, pp. 240-249.

and ably solved it by means of a sane philological method. A schooled phonetician, he has successfully worked for several years on the phonetic history of the Turkish and Mongol languages and established very interesting correspondences of phonetic phenomena in these two linguistic families. In the study cited he advances the law that primeval Turkish initial k' (palatalized k) has developed into Tartar k, Čuva j, Yakut x (spirant surd as in German ach), Mongol ts, č, and Manchu-Tungusian s, ś, or š. He gives seven examples to this effect, the first of which is:

Turkish (Uigur and in the dialects of southern Siberia) kam or anciently qam (shaman), in some dialects kŭär, dum (with such derivations as kamdi, to prophesy; kamla, to heal; kamna, to shamanize; etc.). Čuvaš jum, jumeś (shaman); im-jum (durative charms). Manchu saman, Golde sama, š'ama, Olča šam, Oročon šama, Tungus on the middle Amur saman, Tungus of Udsk saman and šaman, Kondogir and Wilui Tungus xaman.

10: Laufer--367-368 E-3 (no date) 1917 Northeast Asia-2
116, 114, 171, 197, 756

Németh concludes that the origin of the much disputed word 'shaman' is thus definitely solved, and that it is an ancient property of the Turkish-Mongol languages. The phonetic alternation determined by him is perfectly correct and Manchu-Tungusian sam, s'am, or šam (2) is indeed the exact phonetic equivalent of Turkish kam. (3) Apart

2. This in fact is the stem of the word, not as formerly believed by some scholars, sa-, which was explained from Manchu sa- (to know). Németh justly rejects this derivation. By the way, 'Schott,' the father of this etymology, disavowed it himself in his second treatise on the word shaman, quoted above. D. Banzarov (l.c., p. 35) justly recognized sam as the stem.

3. It was hitherto believed that the word for shaman was different in all languages of Siberia, while there is a fairly uniform designation for the female shaman (udagān, utygan, ubakxan, etc.). Hence V. F. Troščanski (Evolutsiya černoi v'ary [šamanstva] u Yakutov - 'Evolution of the Black Faith among the Yakut,' Kazan, 1902, p. 118) was prompted to the theory that the Siberian tribes originally had only female shamans, and after the time of their separation instituted also male shamans. This reconstruction is contestable on many grounds; for instance, we have male and

> female shamans . [368] co-existent in the most ancient days of China. The supposition on which the conclusion is based is now no longer valid: the word for the male shaman is in fact identical throughout from the Turkish to the Tungusian and Gilyak tribes.

from the Tungusian series noted by Németh [368] after Grube's Goldisches Wörterverziechnis, several other forms of the word have become known. De la Brunière (1)

> 1. In H. E. M. James, The Long White Mountain or a Journey in Manchuria (London, 1888), pp. 433, 434

recorded it in 1846 among the Golde as tsama or tsamo. I heard only s'ama from the Golde, in the same manner as Shimkevič, (2) but in view of the existence of several

> 2. Materialy dl'a izučeniya šamanstva u Goldov. p. 8.

Golde dialects such a form many be regarded as possible. A Rudnev (3) noted from a

> 3. Novyia dannyia po živoi mandžurskoi r'äči i šamanstru (New Data

on the Live Manchu Speech and Shamanism), p. 9.

Manchu, who was still conversant with his mother tongue, the following: sáma, sáman, sáma (nasalized a), and sāmăn.

The Gilyak style the shaman čam (tšam). This certainly is a loan-word received from Tungusian, (4) but it is not necessary to assume that the change of the initial š

> 4. There is no doubt that the shamanism of the Gilyak is derived from and a weak echo of that of the neighboring Amur tribes. There are but a few shamans among the Gilyak, and shamanizing is rarely practised by them (see for the present L. von Schrenck, Reisen und Forschungen im Amur-Lande, vol. III, p. 752).

or s into the palatal explosive surd is due to the Gilyak; for this alternation is common within Tungusian, so that a Tungusian čam borrowed by the Gilyak may be presupposed for some Tungusian dialect spoken in the neighborhood of the Gilyak. Compare the following examples: Manchu nesuken and nečin (equal)--Jučen nušin; Manchu ničuxe (pearl)--Old Jučen inšuko or inšuxa, modern Jučen ninčuxe; or vice versâ, Jučen ančun (gold)--Manchu aisin."

10: Laufer--368-370 E-3 (no date) 1917 Northeast Asia-1-5
116, 114, 177, 197, 756

"It has been said that the word šaman is found only in the eastern part of Siberia and in Manchuria. There is, however, one well-authenticated instance on record to the effect that it was known also in northwestern Siberia. In the earliest account that we have of the Irtysh-Ostyak, written in 1715 by G. Novitski, their priests were styled šamančik.(5)

5. B. Munkácsi, Keleti Szemle, vol. IV, 1903, p. 88.

In view of the early date of this record we cannot well assume that this is a loan-word recieved through intercourse with the Russians. Whether the term still exists I [369] am unable to say from the sources at my disposal. S. Patkanow (1) gives for the

1. Die Irtysch-Ostjaken, pt. I, p. 120.

shamans of the Ostyak only the name tonx-ort. (2)

2. Consulting Castrén's vocabulary in his Versuch einer ostjakischen Sprachlehre I find that tonx means idol, and ort, workman, slave. If accordingly tonx-ort should mean servant of the idols, the term might hardly be claimed as a primeval designation of the shaman.

10: Laufer--368-370 E-3 (no date) 1917 Northeast Asia-2
116, 114, 177, 197, 756

The Turkish word kam is of ancient date(3)It is attested (and this is its earliest occur-

3. The Russians have derived from it the verb kamlat' (to shamanize, to conjure, to spell, to prophesy) and the noun kamlanie (the act of shamanizing).

rence) in the Chinese Annals of the T'ang dynasty (618-906), where it said with respect to the Kirgiz(4) that they designate their sorcerers or shamans (Chinese wu) with the word

4. Regarding this name and its ancient Chinese transcriptions see Pelliot and Laufer, T'oung Pao, 1916, p. 295.

kam. The last character now reads kan, but was anciently possessed of a final labial nasal, which is still preserved in the dialects of southern China. Chinese wu is a very ancient term for the native medecine-men.(5) The word kam, further, is found in Uigur(6)

5. Regarding their activity see Chinese Clay Figures, pp. 109-200.

6. In the Kudatku Bilik, written in A. D. 1068 (H. Vámbéry, Uigurische Sprachmonumente, p. 221).

and in the Codex cumanicus of 1303. (7) It is also used by the Persian historian Rashid-

7. W. Radloff, Aus Sibirien, vol. II, p. 67. Nemeth overlooked these data but it is important to note the wide distribution of the word in time and space.

eddin (1247-1318) in 1302, with reference to the shamans of the Mongols. (8) The existence

8. F. Von Erdmann, Temudschin, p. 553, E. Blochet, Introduction à l'histoire des Mongols de Rashid Ed-Din, p. 165.

of the Tungusian word šaman can now be traced to the first part of the twelth century, for Pelliot (9) has found it as a Jučen word in a Chinese gloss, where it is transcribed in the

9. Journal asiatique, 1913, mars-avril, pp. 466-469.

form šan-man and explained as a sorceress. The Chinese transliteration would presuppose Jučen form šamman. Indeed we still meet forms with double m in the dialect of the Wilui Tungus, --samman and xamman. (10) The latter with initial spirant represents the

10. Recorded by R. Maack, Wil'uski okrug (The District of Wilui), pt. 3, p. 116.

missing link between Turkish kam (in the language of the Soyot or Urangkhai xam) and the Tungusian forms with initial sibilant. The [370] alternation of k and x is well known, (1) likewise x, h, and s, alternate in Tungusian dialects. (2) For this reason

1. W. Radloff, Phonetik der nördlichen Türksprachen, p. 108.

2. A. Schiefner, Melanges asiatiques, vol VII, 1877, pp. 338-339.

it is justifiable to correlate the forms kam and xam with Yakut xammā, xamsā (to move, to be agitated; xām, to step, to stride), (3) and to interpret the significance of the word

3. O. Böhthingk, Jakutisches Wörterbuch, P. 79.

from the shaman's peculiar behavior, his solemn and pompous pacing, his ecstacy, his convulsions, his frantic leaps and dancing. (4)

4. This explanation was first given by V. F. Troščanski, Evolutsiya černoi v'äry (šamanstva) u Yakutov (Evolution of the Black Faith among the Yakut),

(Kazan, 1902), p. 117. D. Banzarov (Černaya v'ära, p. 35) held a similar view, but arrived at it through a different process by connecting the word with Manchu samarambi and Mongol samoromoi, samagu; aside from the fact, however, that these words do not have the meaning required, or forced into them by Banzarov, they can by no means be reduced to the stem sam. --Kam is not a Yakut word for the shaman, as wrongly stated by A. van Gennep ('De l'emploi du mot "chamanisme,"' Revue de l'histoire des religions, vol. 47, 1903, p. 52, the Yakut term is oyun."

10: Laufer--370-371 E-3 (no date) 1917 Northeast Asia-1-3
116, 114, 197, 756

"Németh gives no form of the word for Mongol, and explains the absence of a corresponding word in this language through a characteristic trait of the Mongols to whom the use of many words was tabooed; owing to such a taboo, the word šaman should have been lost. This is an arbitrary, far-fetched, and unnecessary theory. First of all, the word šaman does occur in Mongol, at least it is listed as a Mongol word in Kovalevski's and Golstunski's Mongol dictionaries. Whether it is frequent is another question. I never found it in a Mongol text. This is accounted for by the fact that the common term for a shaman in Mongol is büga, bögä, Buryat buge and bö, corresponding to Turkish bögü, Djagatai bügi (sorcery), bügiči (sorcerer), Osmanli büi (sorcery).(5)

5. According to I. J. Schmidt (Geschichte der Ost-Mongolen, St. Petersburg, 1826, p. 416), kami should be the Mongol name of the shamans. It would hardly be necessary to point out this blunder, had it not been immortalized in Yule's Hobson-Jobson (p. 820). There is no Mongol word kami with such a meaning. Schmidt found it in the Mongol chronicle of Sanang Setsen as the proper name of a Tibetan Bon-po, and this name reads correctly Khami or Xami. Schmidt's interpretation, evidently suggested by Turkish kam, is baseless and purely imaginary.

This series seems to bear some kind of relation to Chinese bu, wu (shaman), buk, puk (to divine), and Tibetan aba (pronounced ba, sorcerer); (6) but how [371] this

6. Compare my concordance in Toung Pao, 1916, p. 68.

relation is to be explained is beyond our present knowledge. The type kam--sam is possibly preserved in Mongol in a somewhat disguised form. According to the phonetic law established by Németh, the Mongol initial corresponding to Turkish k and Tungusian s should be ts, č. Thus we get at Mongol tsam, čam, that means a dance, and at present refers in particular to the religious pantomimic dance-performances of the Lamas in which, as is well known, many ancient shamanistic notions and rites of pre-Buddhistic times have survived. The same word in the same sense is encountered in Tibetan as č'am or ts'am (written ač'am), and it would be justifiable to regard the Mongol as a loan-word adopted from Tibetan; (1) but considering the fact that the

1. In a forthcoming study on Loan-Words in Tibetan, where an almost complete list of Mongol loan-words occurring in Tibetan is given, the writer has set forth the difficulties in recognizing the mutual loan-words

> of the two languages. Mongol and Tibetan have a certain number of words in common, partially due to a prehistoric contact, partially due to allively intellectual interchange in historical periods; and it is not always possible to decide in each and every case which side is the recipient, and which the borrower.

word is isolated (that is, not found in any other Indo-Chinese language), it is likewise permissible to stamp the Tibetan as a Mongol loan. For the rest, I give with all reserve this theory of a possible connection of Mongol tsam with Turkish-Tungusian kam--sam (religious dancer).

At any rate it is obvious that the word šaman has now legitimately secured an absolute and irrevocable decree of divorce from its pseudo-mate śramana, samana, or ša-men, and that this mismated couple cannot live together any longer. Tungusian saman, šaman, xaman, etc., Mongol šaman, Turkish kam and xam, are close and inseparable allies grown and nourished on the soil of northern Asia, --live witnesses for the great antiquity of the shamanistic form of religion."

Chukchee, Koryak 101 563

material life of the Maritime Chukchee, who number approximately 3,000, is completely the same as that of the Eskimo. They use the same leather boat, the kayak, and the metal harpoon with a float made of an inflated sealskin, and many other things. On the other hand the Reindeer Chuckchee are completely nomadic and have shown themselves to be extraordinarily good reindeer breeders. They number only about 9,000, but they have around half a million reindeer. But still reindeer breeding does not appear to have been their original sphere, for many idioms as well as marks of their dwelling indicate that they also once lived on the banks of the sea; reindeer breeding was perhaps taken over later from the neighboring Tungus. Thus, /109/ as Bogoras (37) reports, the interior of the sleeping section of

[501] [174]

37. V. Bogoras. The Chukchee (New York, 1904/1908).

the tent is designated as the "skin of the white bear" by the Reindeer Chukchee, even though at present not bear skin but rather only reindeer skin serves as walls and bed covering both for the Reindeer and the Maritime Chukchee. Peculiar is the belief of the Chukchee that a life after death is attained only by a person who has had a violent death, and it was not long ago that, out of a kind of sympathy, they killed their own people who were weakened by age or unfit for life; this custom is also reported among the North American Eskimo. The Chukchee, Koryak, and Kamchadal generally show many traits related to those of the Indians of northwest America, and it is for this reason that Bogoras classifies as "Americanoid" the entire group of Paleoasiatics, including the Gilyak mentioned earlier.1/ Myths and sagas coincide both in content and in form, often down to details, with those of the northwest American Indians. Accordingly the assumption should not be dismissed that the Chukchee, Koryak, and Kamchadal once were immediate neighbors of the Indians, and that only at a later time did the Eskimo shove in between them.

[761] [171]

The Koryak, now also designated as Nymylan, occupy the northern half of Kamchatka and the adjacent continent. Their number is estimated at around 10,000. Like the Chukchee they are divided in half into the Maritime Koryak and the Reindeer Koryak. The former are sedentary and above all fishermen, and their life approaches in significant measure that of the Eskimo. They also hunt sea animals such as the walrus, the seal, and occasionally also the whale. They are already extensively absorbed into the Russian culture and live

1/ [Cf. cat. 116, pp. 118-119 -- Analyst]

Orochi, Gilyak

The social order of this people is peculiar. A council of elders and experienced /107/ people directs the settlement. Everyone is free in his activity, but submits to the community. Every acquisition, every hunting bag is distributed not only among the family but also through the entire settlement. Thus families whose heads go on longer hunting trips and are often away for weeks are taken care of. In the marriage customs there are remnants of group marriage. Faith and superstition are extraordinarily strongly developed. They believe in various gods such as the forest god and the sea god, and they see all of nature animated by spirits. The practical religion, however, is shamanism. The bear is the totem animal. A bear's head is eaten ceremonially and communally in an annual festival. A peculiarity is that a sick person is left when the first signs of death appear, and they return to him only when he is dead. They also avoid the graves of the dead who are buried in the earth, and they also do not disturb the environs of the graves.

101 563 [621] [583] [776] [763] [769]

Of the other Tungus peoples there are still living in the Amur region a few Manchu, Daur, and Solon, who immigrated from Manchuria. In Transbaykal there is still to be mentioned the Orochon, who live in the taiga of the Chita region and are hunters primarily. Reindeer breeding is of less importance among them.

Of the Paleoasiatics only the Gilyak remain in the Amur region and the Ainu on Sakhalin. The main part live in the extreme northeast and consist of Chukchee, Koryak, and Kamchadal, and in addition to these still another group, consisting of Eskimo and Aleut, should be mentioned.

The Gilyak live on the lower Amur and on the coast north and south of the Amur's mouth. Their number is estimated at approximately 2,000. In external features they approach the type of the Tungus-Manchu peoples, but their language deviates completely from the dialects of the Tungus-Manchu peoples, and even from the dialects of the other Paleoasiatic peoples, and recalls the idioms of individual Indian tribes of Northwest America. Dog, seal, and fish skins, in particular, are used for the manufacture of clothing. Their main occupation is fishing and hunting sea animals. However, in the winter they also hunt bears and sables. They always build their dwellings on rivers or near the coast, and they always have a summer and a winter house, which are often right next to one another. Even in the last century they used in winter a "subterranean yurt," as Schrenck named it, an earthen cave, such as was customary among the Koryak and Kamchadal until a few decades ago. One can conclude from this that

[197] [281] 101 563 342

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1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

Christian faith, acquired Christian ikons, but did not want to part with their Shamanist idols. The same can be observed among other Far Eastern and Far Northern aborigines. Many Christian converts wear crosses around their necks, but, at the same time, have idols made of walrus bones and reindeer skin on their belts. Naturally the communists have thrown ridicule on this pagan-Christian dualism, which they have described as 'Shamanism-Orthodoxy', but it is an unavoidable transitory stage in the religious development of any primitive people. Certain sections of the northern tribes of Soviet Russia had been sufficiently Christianized at the time of the establishment of Soviet power to resent the forcible withdrawal of priests, and the removal from forests and ways of crosses which, in the popular belief gave protection against 'devils'. A protest lodged by a group of natives of the Beryozovo district in North-western Siberia was characteristic in this respect. The natives in question wrote a letter complaining that the local communist secretary did not allow them to have a priest. Their actual words were: We can't do without a priest because this is our faith.' ('My ne mozhem bez popa potomu chto vera nasha takaya'.) The letter of protest was printed in 1934 in *Revolyutsiya i Natsionalnosti*, the official organ of the Soviet of Nationalities as a general illustration of the fact that priests still enjoyed confidence in certain parts of the Far North.*

Today most of the Far Eastern tribes are outside the reach of those reduced activities which are still permitted to the Russian Orthodox Church in the U.S.S.R. Whilst churches are tolerated in old towns where their existence is traditional, it has been the consistent policy of the Soviet Government not to allow Christian houses of worship to be erected in the so-called 'socialist cities' which are the products of the Soviet period. In the Far East this applies to Magadan and Komsomolsk, places which among their polyglot population count quite a number of detribalized natives. Members of the two larger nationalities of the Soviet Far East, Yakuts and Buryat-Mongols, are, as far as they are converts to Christianity, in a better position than the members of the smaller tribes. There are churches in the capitals of Yakutia and Buryat-Mongolia and presumably also in other localities of these Republics. These are under the jurisdiction of the Metropolitan of Irkutsk and Chita, whose diocese is larger than the whole of Western Europe.

STALIN – THE SUN

Against Shamanism and Christianity the Soviet régime uses one and the same metaphysical antidote – the Lenin-Stalin cult. In the territories of the Far Eastern tribes this cult has a particularly colourful variant. It takes the form of folk-tales which depict Lenin and Stalin as 'super-

* *Revolyutsiya i Natsionalnosti*, Nr 53, July 1934, pp. 51–57.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

shamans' fighting and exterminating the 'evil spirits'. Lenin and Stalin appear in these 'folk-tales' as legendary heroes, as eagles liberating the people from the 'bad black kite' (a Tunguz folk-tale), and, in particular, as something approaching 'sun-gods'.

It is understandable that the idea of the sun must have a powerful appeal for peoples living in Arctic and sub-Arctic regions. Everything associated with the sun is good, wonderful and divine. The Soviet régime has made ample use of this. The Soviet literary journal *Zvezda* rightly said that several volumes could be compiled from all the legends, stories, tales and songs in which Lenin and Stalin are depicted as heroes who gave to the people of the North the inextinguishable sun.[34] Typical of this 'sun literature' produced for the Far Eastern aborigines is the Nanai folk-tale – *Sun of the People*; – 'and there came a time when a hero (who, although living far away from the Nanai people, saw and knew everything) took the sun into his hands, and turned it in such a way that its warmest rays shone where it was dark, and where down-trodden peoples were suffering. And they then knew well-being, warmth and happiness. The name of the hero was Lenin. When a great disaster befell the earth – when Lenin died – bad people were pleased. They thought that the sun would stop shedding its light on the people, but their glee was shorter than the space of a minute, because the people's sun was guarded by another hero. He is the nearest friend and companion of Lenin, and his name is Stalin. Nobody can equal the strength of that hero. His eyes see everything that goes on on earth. His ears hear everything that people say. His brain knows all that people think. His heart contains the happiness and the woe of all peoples. The depth of his thought is as deep as the ocean. His voice is heard by all that inhabit the earth. Such is the greatest of the very greatest in the whole world. And he took the sun out of Lenin's hands, and lifted it very high. And since then happiness shines on earth, because it is impossible for the sun not to shine.'[35]

The same motif as in the Nanai tale *The Sun of the People* is to be found, with slight variations, in the poems and tales produced for the benefit of the other small ethnic groups of the Far East and Far North.

Something could be said even in favour of the Soviet 'sun' propaganda in as far as it banned the fear of 'evil spirits'. Unfortunately, the Soviet régime has replaced the fear of the spirits by the fear of its own power and the institutions and bogies which it has created. One of them is the wicked foreigner, always ready to attack the natives with the most ghastly and devastating weapons.

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

patriarchal literature which has to be banned, and no cultural societies which have to be closed down because of bourgeois romanticism. Even so the small peoples of the Far East adhere, just as other peoples do, to their national traditions which are closely linked with those primitive religious beliefs usually summed up under the collective name of 'Shamanism'.

Shamanism is fundamentally the belief in good and bad spirits. The exact nature of the belief varies from one tribe to the other. The spirits may be deified animals, they may be ancestors, or they may simply be the forces of nature. Shamanism is not based on an elaborate ecclesiastical organization, but there are, nevertheless, mediators between spirits and ordinary human beings. These mediators are called Shamans. They enjoy a great deal of respect and prestige in the tribal society and this alone would have been sufficient reason to make them 'Enemy Number One' of the Soviet régime in all National Districts and National Areas inhabited by the Far Eastern aborigines.

The régime has charged the Shamans with many crimes, in particular with being dishonest and with consciously deceiving the people. This accusation has been contradicted by many Russian and foreign anthropologists who have had first hand experience of the Far Eastern Shamans. They have made the point that most Shamans sincerely believe in their superior power and are firmly convinced of their ability to cure the sick and to talk to spirits or to deceased relatives. It does not seem that Shamans charged more than moderate fees for their services if they demanded payment at all.[23] According to P. E. Petri, Professor of Ethnology at the Irkutsk University, it was completely erroneous to suggest that the majority of the Shamans were charlatans exploiting the credulity of the natives. For the Shaman, Petri wrote as late as 1928, his vocation constituted a heavy obligation which the spirits had imposed on him. The Shaman knew respite neither by day nor by night. He might at any time be called out and had then to travel dozens of miles in any weather. The Shaman was rarely at home and his household was therefore neglected. As a rule the Shamans were poor and only those living together with their brothers were better off.[24]

According to official Soviet evidence the Shamans engaged in 'mad resistance' to the extension of Soviet power to the north. They disseminated 'provocative rumours' aimed at inciting the tribesmen against the Russians. These charges against the Shamans are reflected in a number of novels which Soviet writers have written on life in the Far East. For example, Syomushkin's novel, *Alitet goes to the Hills*, records the collective resignation of the chairmen of the tribal Soviets in a part of Chukotka, as the result of the evil influences of one important Shaman. These chairmen gathered one day in the tent of the Russian secretary of the Communist Party and surrendered to him their letters of appoint-

Orochi, Gilyak

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Gilyak, chukchee

101 563 [342] earth dwellings must have been the original winter dwelling of the Paleoasiatics. Even today the Gilyak on the northern coast of Sakhalin live in such earthen caves. The Gilyak on the Amur live at present in primitively built Chinese mud huts. The summer dwelling consists of a tent built on poles partly for protection against floods and further for reasons of better /108/ ventilation. This type of pile dwelling is [171] not to be encountered among any Tungus people; it, however, still exists today among the Kamchadal, who are likewise a Paleoasiatic people. The sole domestic animal is the dog. The Gilyak dog sled, [493] the narta, is built out of birchwood and is very light. The dogs are not harnessed in pairs but individually, and they don't pull with their chest but with their neck. The main food of the Gilyak is fish dried [262] in the air, which they name "ma." Today they also use the same word for bread. They like very much to eat dog and bear meat too. [411] A few decades ago they still were using only bows, arrows, and lances for hunting. Even today they wear on the right index finger--now, of course, as decoration--a metal ring, which formerly served to pro- [583] tect the finger from the stretching of the bow. Group marriage was still customary among the Gilyak in 1905. In their spiritual life, [776] worship of the bear plays a large role; this is a common mark of all Paleoasiatic peoples. Worship of the bear is also practised among the Tungus, but not so markedly; and even among the Russian occupants of the taiga this custom has not remained without influence. Of the Ainu only a part live on Sakhalin; the great majority live on the northern Japanese islands.

The Paleoasiatics in the northeast fall into two groups. The western group consists of the Chukchee, Koryak, and Kamchadal, who are closely related to one another; the eastern group consists of the Asiatic Eskimo and the Aleut. When the Russians first encountered the Paleoasiatic peoples here in the far north, they were still in part on the cultural level of the Stone Age and used stone hachets, stone knives, and weapons with bone points. Even today they show many ancient traits.

The Chukchee or Luoravetlan occupy the peninsula named after them. Some of them are settled on seacoasts and pursue fishing and the hunting of sea animals; some, living as reindeer nomads, [342] traverse the tundra-covered peninsula. A large pointed tent with a round base serves as a dwelling for both groups. It consists of poles placed together and covered with reindeer skins or walrus hides; on the outside down below they are weighted down with stones. The

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

538 756 It would appear from Soviet evidence that Shamanism experienced a certain revival during the war. Shamans, it is alleged, cunningly used the temporary absence of young communist educated people from the tribal areas to regain some of their former influence. The novel of the well-known Soviet writer Azhaev, *Far from Moscow*, which refers to conditions in a Nanai village contains, for instance, the following passage: 'He (the Shaman) had lain low for a time but resumed his evil practices when war broke out. He saw his chance to profit from the war by a crafty and insolent device. Many of the Nanai boys of the village had been called to the colours. They wrote letters home from the front, and the Shaman made his "prophecies" by these letters. His clients were mostly old women anxious about the fate of their sons, and he fleeced and fooled them to the top of his bent.'[33]

Soviet novels about post-war conditions in the Far East try to convey the impression that the Shamans have ceased to be figures that are respected and feared. The Shamans of these novels are desperately isolated and universally despised. In one case the Shaman is even an enemy agent whom the Americans have sent from Alaska to provoke 'acts of diversion' among the natives of the Soviet Far East.

Some of the Soviet charges made against the Shamans coincide more or less with the criticism which a Western colonial administrator would direct against the African witch-doctors and juju-men. Western and Soviet administrators will, however, often differ as to the way in which the Shaman and the juju-man are to be fought. In West Africa, though not in East Africa, the fight against the juju-man is no more than a campaign of enlightenment in favour of a more hygienic way of life. In other words it is an aim in itself. The fight against the Shaman in the Soviet Far East and Far North is only a small part of a great struggle which is aimed at crushing every kind of political and religious opposition.

THE FIGHT AGAINST CHRISTIAN MISSIONS

747 ● 779 661 In the Far East and Far North the régime fights religion on 'two fronts'. If the liquidation of Shamanism is one aim of communist anti-religious policy, the total prevention of Christian missionary activities is another.

Christianity has had a certain influence on the small nationalities of the Far East. Missionaries preaching the faith in a God who loves and helps man, have tried with some success to oust from the hearts of the natives that deep-rooted fear which is accompanied by belief in evil spirits. But the work of the missionaries was far from being finished when the Soviet authorities interrupted it. As it often happens in Africa, the superstitions of paganism survived even where the Church made formal converts. Those Lamuts of Kamchatka, for instance, who accepted the

1: Kolarz J-4 (no date) 1954 RR1 Siberia RR1

Christian faith, acquired Christian ikons, but did not want to part with their Shamanist idols. The same can be observed among other Far Eastern and Far Northern aborigines. Many Christian converts wear crosses around their necks, but, at the same time, have idols made of walrus bones and reindeer skin on their belts. Naturally the communists have thrown ridicule on this pagan-Christian dualism, which they have described as 'Shamanism-Orthodoxy', but it is an unavoidable transitory stage in the religious development of any primitive people. Certain sections of the northern tribes of Soviet Russia had been sufficiently Christianized at the time of the establishment of Soviet power to resent the forcible withdrawal of priests, and the removal from forests and ways of crosses which, in the popular belief gave protection against 'devils'. A protest lodged by a group of natives of the Beryozovo district in North-western Siberia was characteristic in this respect. The natives in question wrote a letter complaining that the local communist secretary did not allow them to have a priest. Their actual words were: We can't do without a priest because this is our faith.' ('My ne mozhem bez popa potomu chto vera nasha takaya'.) The letter of protest was printed in 1934 in *Revolyutsiya i Natsionalnosti*, the official organ of the Soviet of Nationalities as a general illustration of the fact that priests still enjoyed confidence in certain parts of the Far North.*

Today most of the Far Eastern tribes are outside the reach of those reduced activities which are still permitted to the Russian Orthodox Church in the U.S.S.R. Whilst churches are tolerated in old towns where their existence is traditional, it has been the consistent policy of the Soviet Government not to allow Christian houses of worship to be erected in the so-called 'socialist cities' which are the products of the Soviet period. In the Far East this applies to Magadan and Komsomolsk, places which among their polyglot population count quite a number of detribalized natives. Members of the two larger nationalities of the Soviet Far East, Yakuts and Buryat-Mongols, are, as far as they are converts to Christianity, in a better position than the members of the smaller tribes. There are churches in the capitals of Yakutia and Buryat-Mongolia and presumably also in other localities of these Republics. These are under the jurisdiction of the Metropolitan of Irkutsk and Chita, whose diocese is larger than the whole of Western Europe.

STALIN – THE SUN

Against Shamanism and Christianity the Soviet régime uses one and the same metaphysical antidote – the Lenin-Stalin cult. In the territories of the Far Eastern tribes this cult has a particularly colourful variant. It takes the form of folk-tales which depict Lenin and Stalin as 'super-

* *Revolyutsiya i Natsionalnosti*, Nr 53, July 1934, pp. 51–57.

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186 159 208 victions. Not only was the colonization of Alaska itself 'progressive' and 'democratic', the management of the Russian-American Company also was. One of its chief executives, K. F. Ryleev, was executed for his part in the December rising of 1825, and there were other prominent 'Decembrists' among the officials of the Company.[33]

208 563 Soviet propaganda has tried to show that Baranov and Kuskov conducted a progressive policy towards the natives of North America, totally different from the Anglo-Saxon or Spanish policy towards Red Indians. This is untrue and has been contradicted by Russian sources themselves. A Russian naval officer, who visited Alaska at the time of Russian occupation, has given the following eloquent description of Baranov's policy towards Eskimos and Aleuts: 'Woe to those who resisted him. He destroyed them mercilessly, deported them to uninhabited islands, deprived them of all means of contact with each other, and mixed people of various tribes so that there could be no malicious conspiracy against the Russians. He was feared by the savages, they considered him as the scourge of heaven. Since they had no chance to revolt they were forced to become his slaves and to forget all about their previous freedom'.[34] As a matter of fact, the Aleuts revolted against Russian rule, as the Russian historian, Shashkov, pointed out in his book on the Russian-American Company, and these revolts led to the extermination of a large part of 'this restless people'. How many Aleuts have perished altogether in the years of Russian rule it is impossible to say. According to the official data of the Russian-American Company there were 8,405 Aleuts in Alaska in 1824, but only 4,363 were recorded in 1859. It would be true to say, therefore, that Russian colonization of Alaska was, from the humanitarian point of view, by no means better than, say, British colonization of Australia in its initial stage.

● 797 Nevertheless, Russian policy towards the native peoples of Russian America did have its brighter aspects. Those responsible for it, however, were not Shelikhov, Baranov and the other newly discovered national heroes of Soviet Russia, but people whom the Soviet régime is not very keen on publicizing, the Christian missionaries. It was they who founded the first schools in Alaska, educated a fair number of natives, and even translated religious books into the Aleut language. The most important Russian churchman working in Alaska was Ivan Veniaminov (1797–1879). He was the author of a grammar of the Aleutian language which was published in St. Petersburg in 1846. The 'apostle of Alaska', as the Russian historian, Zernov, calls him, became later, under the name of Innokentii, Metropolitan of Moscow.[35]

175 The scope of these Russian church activities was, however, very small and one cannot say that the end of Russian rule in Alaska, in 1867, meant in any way a major loss to the native peoples; but of course it was, historically speaking, a great loss for the Russian State. Soviet Russia was

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538 756 It would appear from Soviet evidence that Shamanism experienced a certain revival during the war. Shamans, it is alleged, cunningly used the temporary absence of young communist educated people from the tribal areas to regain some of their former influence. The novel of the well-known Soviet writer Azhaev, *Far from Moscow*, which refers to conditions in a Nanai village contains, for instance, the following passage: 'He (the Shaman) had lain low for a time but resumed his evil practices when war broke out. He saw his chance to profit from the war by a crafty and insolent device. Many of the Nanai boys of the village had been called to the colours. They wrote letters home from the front, and the Shaman made his "prophecies" by these letters. His clients were mostly old women anxious about the fate of their sons, and he fleeced and fooled them to the top of his bent.'[33]

Soviet novels about post-war conditions in the Far East try to convey the impression that the Shamans have ceased to be figures that are respected and feared. The Shamans of these novels are desperately isolated and universally despised. In one case the Shaman is even an enemy agent whom the Americans have sent from Alaska to provoke 'acts of diversion' among the natives of the Soviet Far East.

Some of the Soviet charges made against the Shamans coincide more or less with the criticism which a Western colonial administrator would direct against the African witch-doctors and juju-men. Western and Soviet administrators will, however, often differ as to the way in which the Shaman and the juju-man are to be fought. In West Africa, though not in East Africa, the fight against the juju-man is no more than a campaign of enlightenment in favour of a more hygienic way of life. In other words it is an aim in itself. The fight against the Shaman in the Soviet Far East and Far North is only a small part of a great struggle which is aimed at crushing every kind of political and religious opposition.

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have probably been exaggerated, partly to serve as an excuse for the inefficiency of Soviet administration and partly as a pretext for the anti-Shaman measures taken by the régime. The fight against the Shamans took the same forms as the campaign against other religions of the Soviet Union, ranging from ordinary anti-religious propaganda to administrative terror. The Far Northern cells of the League of Militant Godless were in charge of the former. In view of the complicated character of Shamanism it was no easy affair to combat it and a more thorough picture of its regional diversities had first to be obtained. The League of Militant Godless therefore urged its northern groups to compile a detailed register of the Shamans which was to answer the following questions about each of them: What is the range of activity of the Shaman? Is he a family Shaman or does a larger group of people avail itself of his services? What speciality does he have? Is he a sea-Shaman accompanying fishermen on their expeditions? Is he a tamer of snowstorms? Does he claim to have any influence on the results of hunting? Is he engaged in healing reindeer and people? What sort of cult objects does he possess? Drums? Costumes? Does he hold collective séances? What is his social origin? Detailed information about these and other points was to be sent at least twice a year to the Central Council of Militant Godless, Moscow, Sretenka Street Nr 10.[30]

It does not seem that the League of Militant Godless had many people on the spot with a sufficient knowledge of folklore and anthropology to carry out the 'registration of the Shamans' and it is more than likely that the whole scheme failed. Other anti-Shaman measures were more successful. For instance, pressure was brought to bear on Shamans to give a solemn pledge that they would renounce their activities. Collective statements of several Shamans were even published in the local Press stating that in the past they had been 'wreckers' and 'cheaters.'[31] In other cases where such self-recriminations could not be obtained, Shamans were expelled from their tribal territory or arrested and put on trial. By arresting Shamans the Soviet authorities wanted to show the people that they did not fear their power and that Shamans were not protected by the spirits.

Notwithstanding all these measures of intimidation and persecution the Shamans were still a fairly important factor at the time of the adoption of the Stalin Constitution of 1936. When the constitution was subject to a nationwide discussion the Shamans once more showed their anti-Soviet bias and they did so again during the elections to the Supreme Soviets of the U.S.S.R. and the R.S.F.S.R. in 1937 and 1939 respectively. According to Oleshchuk, one of the leaders of the League of Godless, the Shamans tried 'to falsify the Soviet Constitution, undermine the elections and exploit the electoral campaign for counter-revolutionary aims.'[32]

361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 Vladivostok is not only a harbor city, but it also has developed [255] into an industrial city. In first place here is the fish industry, which, however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [396] Vladivostok has great importance as a naval harbor and a shipyard, [399] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 Apart from this fish industry, which is distributed among 322 numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

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indeed, 'The further away we send a man, the more we must be able to trust him'.[4] It can be taken for granted that a man whom the Communist Party considers particularly trustworthy will be a hard-working official, and that he will not commit any crimes such as those of which Semenchuk and Startsev had been convicted. But a trustworthy communist is not necessarily a man who understands the mentality of the Far Eastern aborigines, and who deals with their problems in the best way.

NATIVES, STATE TRUSTS AND FORCED LABOUR

In addition to the Party and the territorial administration, there is a third influential factor in the Far East which has a great impact on the 'natives', namely the big State capitalist organizations of Kamchatka, Chukotka and the territories around the Okhotsk Sea. Instead of assisting and strengthening native economy the Soviet régime encouraged the growth of State companies such as the 'Kamchatka Limited Company' (later known as 'Glavkamchatrybprom' – Kamchatka Chief Administration for the Fishing Industry), the 'State Reindeer Trust', the 'Dalrybtrest' (Far Eastern Fishing Trust) and 'Soyuzpushnina', the State organization for fur trading. Soviet experts on the Far East themselves have admitted that these enterprises employed people who were guided by a 'narrow-minded business attitude' and who discharged their duties in a 'crudely materialistic way'. All they wanted was to fulfil the target figures of the state plan. They were not interested in assisting the natives either by supplying the most essential food commodities or by encouraging cultural work. The enterprises concerned, in particular the Kamchatka Company and the Reindeer Trust, seized land, and hunting and fishing grounds traditionally belonging to the natives. Even land owned by newly established collective farms of reindeer-breeders was arbitrarily confiscated by State trusts.[5]

Another State enterprise, the previously mentioned 'Dalstroy', which operates around the Okhotsk Sea, has also greatly affected the life of the 'natives' who live in its territory. The first director of Dalstroy, E. Berzin, pointed out in 1936 that the trust had opened schools and hospitals in all centres of the native population. The budget of the native communities ('National Districts') had increased almost ten times during five years.[6] What Berzin did not say was that the native schools and hospitals had been built with the profits which Dalstroy had made by exploiting forced labour. As a matter of fact, some of the schools of which Berzin boasted are 'mixed schools', which are attended both by natives and by children of convicts who were born in captivity and taken away from their mothers.[7] In the area controlled by the Dalstroy we thus meet the most sinister aspect of the 'Soviet nationalities policy', namely, its

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233 474 gives an optimistic picture of the Russian reindeer situation states that a new period of decline set in during the war owing to the increased slaughter for the army and inferior care of the herds resulting from the mobilization of many native herdsmen.[14] After the war the position improved but whether and when the peak figure of 1931 was reached again, is impossible to say. Such increases in the number of reindeer as there were, were brought about, it seems, by a more liberal application of the collective farm statute. Collective farm members were encouraged to own small reindeer herds privately. The maximum size of these privately owned herds is not known but cases have been mentioned of individual collective farmers having as many as 80, 90, 130, and even up to 200 reindeer each.[15]

233 874 The reindeer problem has caused difficulties to Soviet administrators not only in the purely economic sphere but also in the field of education. What is needed in the Far North is a school which would help to raise hunting and reindeer breeding to a higher level. The more enlightened Russian pedagogues are the first to admit that such a school does not exist. One of the school inspectors posted to Northern Siberia quoted, not without a certain measure of approval, a reindeer breeder who refused for a long time to entrust his two sons to a Soviet boarding school. The father in question said that he taught his children to hunt game, to catch the polar fox and to ride reindeer. In school, he added, they would not learn all this, and when they had finished they would have no practical knowledge. An article in the *Teachers' Gazette* stated that there was a 'grain of truth' in the complaint of the old reindeer breeder. 'The school is indeed too much cut off from practice and thus not able to prepare children for the life in the Far North.'[16] A similar problem, it is true, also exists in other countries. Richard Finnie, in his book *Canada moves North*, says that Eskimo children, after spending years in boarding schools, return to their families unfitted for the lives they must lead.[17]

THE CULTURAL REVOLUTION

212 ● 871 171 Whatever the quality of school education in the Russian Far North may be, it is a fact that the Soviet authorities have carried out a big cultural revolution in the native territories. The most important part of it has been the liquidation of illiteracy. Until 1931 the Far Northern and Far Eastern peoples could express themselves in writing only in the form of drawings or through the medium of the Russian language. In May, 1931, they received an alphabet of their own, the 'Unified Northern Alphabet' as it was called. It was officially approved by the Ministry of Education of the R.S.F.S.R. The 'Unified Northern Alphabet' was a Latin alphabet and the decision to adopt it was not taken without a long struggle fought out behind the scenes between the supporters of latiniza-

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tion and those who preferred the Russian alphabet or at least a 'mixed alphabet' in which Russian letters would predominate.

In the Soviet Far East the ethnographic section of the Society for Regional Research declared itself with great vigour against all attempts at russification. In a memorandum the Society listed four reasons why only the Latin alphabet could be introduced for the languages of the Chukchi, Koryaks, Nanai, Nivkhi and the other Far Eastern tribes:

1. The successful latinization of the alphabets of the oriental languages.
2. The genuinely international character of the Latin alphabet.
3. The inadequacy of the Russian alphabet which would have to be supplemented by a number of letters.
4. The fact that the Russian alphabet itself would not be long-lived since progressive scholars had already raised the question of its latinization.[18]

These four considerations were shared by the Moscow authorities who had decreed the introduction of the Latin alphabet for the Northern peoples.

The Latin alphabet remained in force for less than six years – until February 11th, 1937, when a new decree abolished and replaced it by a russianized alphabet. The new script was intended for thirteen small nationalities of whom eight lived either wholly or partially in the Far East. The replacement of one alphabet by another rendered necessary the destruction of a large amount of printed material that had been prepared for the Northern peoples. Between 1931 and 1933 alone as many as 200,000 textbooks, 100,000 pamphlets of a political nature and 10,000 books on medical and economic subjects had been issued for them.[19]

Soviet school policy proper did not suffer from such a disturbing lack of continuity as the Soviet literacy campaign. The number of schools increased systematically and steadily and now there are as many as 200 native schools in the Khabarovsk Territory. They are supervised by a Council of National Schools which was created in 1949 and which works under the education department of the Khabarovsk territorial administration. The Council does not only administer schools but also deals with all problems connected with the writing of text-books, and the translation of classical Russian and Soviet literary works into the local languages. The Council relies on the graduates of the teachers' training colleges in Petropavlovsk (for South Kamchatka), Anadyr (for Chukotka), Tigilsk (for North Kamchatka) and Nikolayevsk-on-Amur. The most important and largest of the four is the college in Nikolayevsk. Between its foundation in the early 'thirties' and 1951 it trained 170 Russian and 105 native teachers belonging to ten different Far Eastern nationalities.[20] The most gifted young people from among

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the Far Eastern aborigines are sent to the Pedagogical Institute of Khabarovsk, where there is a department for the Far Northern nationalities, and a few are even admitted to the Herzen Pedagogical Institute in Leningrad. Courses at the Far Northern Department of that Institute last three years, and the curriculum includes 'Foundations of Marxism-Leninism; the great works of Stalin on questions of linguistics; the history of Russian pre-revolutionary and Soviet literature; folklore, and many other subjects'.[21] In addition every student has lessons in methods of teaching, in the grammar of his own national language, and in the history and ethnography of the peoples of the North.

Native students are also instilled with a feeling of hatred against the non-communist world. The results of this indoctrination can be gauged from the answers which a Yakut student gave, according to *Pravda*, at his final examinations at the Leningrad Pedagogical Institute. 'The Yakut student, E. Sysosyatin, talked at the examination of the situation of the Eskimos, Aleutians and Red Indians in America. He mentioned many facts which unmasked the American imperialists, and their criminal policy directed towards the total extermination of these peoples. To the horrors of misery, starvation, inhumane privations and persecutions to which these nationalities are subject in America, even greater atrocities have been added during the past few years. As has become known, the American imperialists, preparing bacteriological warfare, tried out the effects of the deadly microbes on the Eskimos. As a result of these cannibalistic experiments many Eskimos in America died of bubonic plague.'[22]

Soviet dictatorship indoctrinates all citizens of the U.S.S.R., whether Russians or Uzbeks, Ukrainians or Georgians, Latvians or Chukchi. It gives to all of them a completely distorted picture of the nations outside the communist sphere. This campaign of hatred and distortions, while morally wrong in every single case, is particularly contemptible if directed towards the youth of primitive peoples. By trying to transform young native intellectuals into agitators of the 'cold war', the Soviet régime destroys to a considerable extent the good which it is doing by the spread of culture and knowledge.

COMMUNISTS AND SHAMANS

The young natives trained in Nikolayevsk-on-Amur, Khabarovsk and Leningrad are to help the Russian administrators in the fight against 'local nationalism' in all tribal areas of the Soviet Far East. Naturally, in the territories of the small Far Eastern peoples the Soviet régime does not fight 'local nationalism' in the same way as it does in areas where there are more developed nationalities. There are no parties or political groups which the communists have to suppress; there is no feudal-

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the Far Eastern aborigines are sent to the Pedagogical Institute of Khabarovsk, where there is a department for the Far Northern nationalities, and a few are even admitted to the Herzen Pedagogical Institute in Leningrad. Courses at the Far Northern Department of that Institute last three years, and the curriculum includes 'Foundations of Marxism-Leninism; the great works of Stalin on questions of linguistics; the history of Russian pre-revolutionary and Soviet literature; folklore, and many other subjects'.[21] In addition every student has lessons in methods of teaching, in the grammar of his own national language, and in the history and ethnography of the peoples of the North.

Native students are also instilled with a feeling of hatred against the non-communist world. The results of this indoctrination can be gauged from the answers which a Yakut student gave, according to *Pravda*, at his final examinations at the Leningrad Pedagogical Institute. 'The Yakut student, E. Sysosyatin, talked at the examination of the situation of the Eskimos, Aleutians and Red Indians in America. He mentioned many facts which unmasked the American imperialists, and their criminal policy directed towards the total extermination of these peoples. To the horrors of misery, starvation, inhumane privations and persecutions to which these nationalities are subject in America, even greater atrocities have been added during the past few years. As has become known, the American imperialists, preparing bacteriological warfare, tried out the effects of the deadly microbes on the Eskimos. As a result of these cannibalistic experiments many Eskimos in America died of bubonic plague.'[22]

Soviet dictatorship indoctrinates all citizens of the U.S.S.R., whether Russians or Uzbeks, Ukrainians or Georgians, Latvians or Chukchi. It gives to all of them a completely distorted picture of the nations outside the communist sphere. This campaign of hatred and distortions, while morally wrong in every single case, is particularly contemptible if directed towards the youth of primitive peoples. By trying to transform young native intellectuals into agitators of the 'cold war', the Soviet régime destroys to a considerable extent the good which it is doing by the spread of culture and knowledge.

COMMUNISTS AND SHAMANS

The young natives trained in Nikolayevsk-on-Amur, Khabarovsk and Leningrad are to help the Russian administrators in the fight against 'local nationalism' in all tribal areas of the Soviet Far East. Naturally, in the territories of the small Far Eastern peoples the Soviet régime does not fight 'local nationalism' in the same way as it does in areas where there are more developed nationalities. There are no parties or political groups which the communists have to suppress; there is no feudal-

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167 241 Eastern border areas the government made concessions even in the economic sphere. In European Russia only collective farmers were at that time allowed to own a cow as their own personal possession, never industrial or transport workers.

KOMSOMOL COLONIZATION

167 665 ●383 The military colonization largely overlaps with another special form of colonization in the Soviet Far East, which is carried out with the help of the Communist Youth League, the Komsomol. The Youth League is the backbone of the Far Eastern units of the Soviet Army. Towards the end of the inter-war period 60 to 70 per cent of the soldiers in the Far East were Komsomol members. Hence among the demobilized soldiers, too, there must have been a good deal of 'Komsomol spirit'. The Komsomol influence in the Far East is, however, by no means confined to the army. The entire Soviet Far East has been described as a 'Komsomol Territory'. This is true both in the figurative and in the literal sense. The Soviet Far East is 'komsomolsky' because it is a young pioneer country, but the Komsomol, the Communist Youth League, is also directly connected with the Soviet Far East as one of the principal promoters of its colonization.

Many Communist Youth League members went to the Far East as individuals out of a spirit of adventure and also out of a feeling of patriotic duty. The Komsomol, as an organization, was responsible for two big spectacular actions. One was the foundation of the town Komsomolsk-on-Amur, the other was the movement initiated by Madame Khetagurova.

The history of Komsomolsk goes back to the spring of 1932 when the Central Committee of the Communist Youth League chartered two steamers, *Kolumb* and *Komintern*, which sailed with 400 young people, including a number of Civil War orphans, to the village of Permskoe on the Lower Amur. (The village had been founded as early as 1858 by Russian peasant colonists hailing from the region of Perm in the eastern part of European Russia.) Even the first small party of Komsomol members outnumbered the local population of 160 inhabi- [361] tants. In the second half of 1932 many more young people arrived, and in December of the same year the All-Russian Executive Committee published a decree which transformed Permskoe into the town of Komsomolsk. The decree read well in the Moscow newspapers, but to the young builders of Komsomolsk it must have appeared utterly unrealistic. At the time when the decree was published they were in a state of despair. The building of the town had had to be interrupted in view of the harshness of the Russian Far Eastern winter, and the inexperience of the new settlers had resulted in great complications. During

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-